The Lake Chad Basin's Regional Biodiversity Action Plan (LCB-RBAP)

2023-2028

31/07/2023

Table of Contents

List of Tables

List of Figures

List of Acronyms

TDA Transboundary Diagnostic Analysis

IGA Income Generating Activities

AFD French Development Agency

ADB African Development Bank

IDB Islamic Development Bank

WB World Bank

CBD Convention on Biological Diversity

LCBC Lake Chad Basin Commission

CEMAC Economic and Monetary Community of Central Africa

EU European Union

IAS Invasive Alien Species

FAO Food and Agriculture Organization of the United States

GEF Global Environment Facility

GIZ German Agency for International Cooperation

NRM Natural Resources Management

AAI Africa Adaptation Initiative

SDGs Sustainable Developement Goals

NGO Non Gouvernemental Organization

EQO Environmental Quality Objectives

WHO World Health Organization

SAP Stragegic Action Programme

UNDP United Nations Development Programme

RBAP Regional Biodiversity Action Plan

TFP Technical and Financial Partners

NTFPs Non-Timber Forest Products

CAADP Comprehensive Africa Agriculture Development Programme

CAR Central African Republic

IUCN International Union for Conservation of Nature

UNESCO United Nations Educational, Scientific and Cultural Organization

AU African Union

PMU Project Management Unit

USAID U.S. Agency for International Development

01. Introduction

The Lake Chad Basin Commission (LCBC) was created on 22 May 1964 by the Convention of Fort-Lamy, Capital of Chad (currently N'Djamena). It comprises the states of Cameroon, Niger, Nigeria, Chad, Libya and CAR. The LCBC mission is to manage the Lake Chad waters in a sustainable and equitable manner, with a view to promoting regional integration for sustainable development and preserving peace and security among member countries.

Since its creation, this Commission has been making efforts to save the lake or at least to mitigate the effects of its drying up on the lives of the population. However, the challenges of conserving and managing the resources of the basin are as many as complex and urgent.

To meet these challenges, the LCBC began a consolidation process in the late 2000s by reorganising itself. Thus, it defined a vision (Vision 2025), developed a strategy (Strategic Action Programme-SAP), adopted common principles for water management (Water Charter and its Annexes) and worked to consolidate environmental information management through various projects

Consequently, in 2005 and 2008, the LCBC adopted the SAP and the Transboundary Diagnostic Analysis (TDA) respectively, which are complementary planning and decision-making tools designed in the framework of the Global Environment Facility (GEF). In addition, with the support of the World Bank and in collaboration with the French Development Agency (AFD), it has prepared the 2016-2025 Lake Chad Climate Change Development and Adaptation Plan (LCDP).

Like the 2005 TDA reviewed in 2018, and the 2008 SAP reviewed in 2022, the LCBC has committed to develop a Regional Biodiversity Action Plan (RBAP) for the years 2023-2028.

Thus, the plan is structured in six (06) sections:

a. An introductory section taking into account the rationale for the elaboration of the RBAP;
b. A second section describing the status and trends of biodiversity in LCB;
c. A third section describing the priority areas for intervention and the implementation schedule;
d. A fourth section presenting the implementation mechanism;
e. A fifth section on the resource mobilisation Plan;
f. A sixth section which focuses on institutional monitoring at the level of the Member States.

1.1 RBAP Background and Rationale

Located between 6°E and 24° N, the Lake Basin covers an area of 2,380,000 km² [1], which is about 8% of the surface area of the African continent, divided between Algeria, Cameroon, Central African Republic, Chad, Libya, Niger, Nigeria and Sudan [2]. The LCB is the driest basin and most exposed to the desertification process at the sub-regional level.

The conventional basin of the lake extends over 984,455 km² and partly covers Chad (37%), Cameroon (6%), Nigeria (21%), Niger (16%) and CAR (20%) territories.[3] (Fig.1).

The lake receives more than half of its annual water between September and November. This seasonal inflow system, combined with much more constant evaporation, results in water mass fluctuations of about 1 to 2.5 metres per year. The annual volume of the overflow into the lake is 38.5 x 109 m³, but it has increased from approximately 7 x 109 m³ (1984/88) to approximately 53 x 109 m3 (1961/62). During this period, the water levels of the lake and corresponding areas increased from 275.35 m and less than 3,000 km² in 1984 to 283.41 m and about 26,000 km² in 1962. Even with high water masses, the lake still has a large number of islands and open water covers about 70% of the total lake area. The volume of annual overflow currents is about 2/3 of the average volume of water accumulated during a 'normal' year as defined by ORSTOM [4].

1 (UNEP, 2010),
2 UNEP, Geographic location, 2010
3 Pascal Leblanc, Hydrographic study of the conventional basin of Lake Chad, 2014
4 Lake Chad Basin Transboundary Diagnostic Analysis Project

Fifty years ago, "the Lake Chad was comparable to a freshwater sea with its 25,000 km^2". Actually, the lake has shrunk considerably, covering only about 2,500 km^2 during high periods [5]. This situation has led to a sharp decline in the lake's fisheries and other natural resources, which has fostered competition for access to resources between populations and increased the challenge of equitable resource management and exploitation among the riparian States in the LCBC.

Figure 1: *Watershed and conventional basin of the Lake Chad.*

For many years, the member states have been facing the major challenges of climatic severity (prolonged drought), causing anarchic sedentarisation of a rapidly growing population, and deforestation stressed by the silting up of basic socio-economic infrastructures. These phenomena have contributed to the degradation of tree, shrub and herbaceous vegetation cover and have exposed the soil to water and especially wind erosion. The consequences of such phenomena are manifested in:

- Fragility of ecosystems characterised by insufficient, irregular and poorly distributed rainfall in space and time;
- Disfunctioning of ecosystems and scarcity of ecosystem services;
- Disruption of land use patterns, stressed by accelerated and anarchic sedentarisation;
- Inadequacy of the mode of resources exploitation in relation to the environment regeneration rate, which is three times lower than the extraction rate (Magrin, Lemoalle, Pourtier, 2015. Atlas of Lake Chad).

Efforts have been made at both global and African levels to address these climate challenges and the loss of biodiversity.

Thus, at the global level (1992 in Rio de Janeiro), the international community signed the United Nations Convention on Biological Diversity in order to better protect this global heritage. In 2010 in Nagoya, Japan, the international community made a firm commitment to future generations and adopted the Strategic Plan for Biodiversity 2011-2020 with the Aichi Biodiversity Targets (ABT). In light of the fact that the ABOs have not been achieved, the country Parties to the

5 ROHALLATI NDARA Pierre, hydrologist/ LCBC, International workshop on water scarcity - taking action in transboundary basins and reducing health impacts - practical measures to reduce water scarcity in the Lake Chad Basin, Geneva - Switzerland 11 –12 Decembre 2017

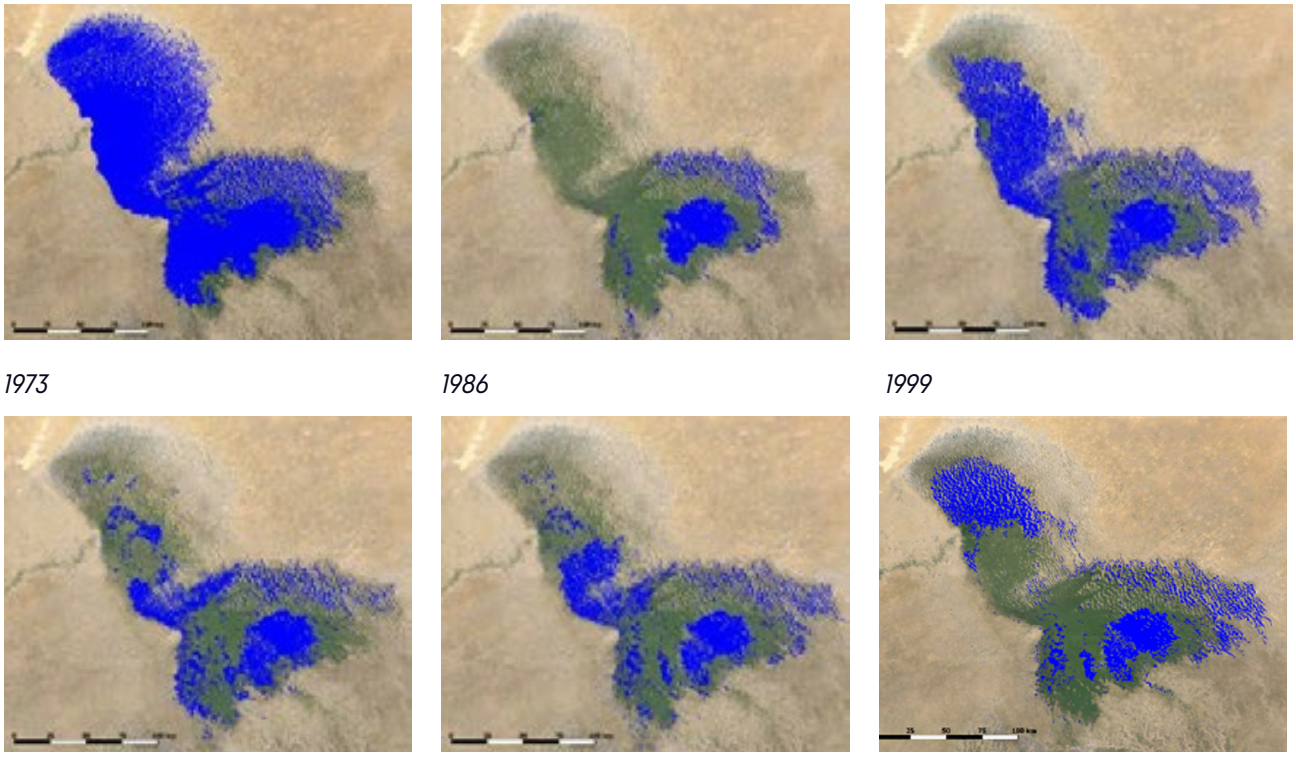


Figure 1: *Watershed and conventional basin of the Lake Chad.*

Convention on Biological Diversity (CBD) decided that it was important to develop a new global biodiversity framework for the post-2020 period.

The objective of the post-2020 global biodiversity framework is to maintain and restore biodiversity and ecosystems, to halt the decline in nature's contribution to humans, to ensure fair and equitable access to natural resources and to deploy sustainable tools and solutions.

With regards to African countries, they have developed several initiatives that include:

g. The Africa Adaptation Initiative (AIA) ;
h. The Africa Renewable Energy Initiative;
i. The Africa Blue Economy Strategy;
j. The Sustainable Forest Management Framework for Africa;
k. The Pan-African Action Agenda on Ecosystem Restoration for Increased Resilience;
l. The Africa Climate Resilient Agricultural Development Programme and the African Forest Landscape Restoration Initiative.

However, at the sub-regional level, according to the Transboundary Diagnostic Analysis (TDA), Lake Chad Basin's problems mainly revolve around: i) improving governance and sustainable use of the Lake Chad Basin resources; ii) restoring the Lake Chad Basin bio-resources; iii) conserving biodiversity in the Lake Chad Basin ; iv) restoring and conserving the Lake Chad Basin ecosystems; v) strengthening stakeholder participation and capacity as well as the legal and institutional framework for sustainable management of the Lake Chad Basin environment [6].

Thus, the development of the current RBAP is part of the perspective of providing effective and efficient responses to the challenges faced by the LCB.

1.2. RBAP Vision

The Lake Basin faces major challenges and threats. Faced with these challenges, the member countries have found it wise

6 LCBC, Strategic Action Programme for the Lake Chad Basin, 2008

to have a long-term vision that projects a positive image of the basin. To this end, they are committed to implementing effective and responsible measures to achieve this objective.

In developing this RBAP, it is clear that it remains a tool that contributes to the LCBC mission in the same way as other major tools. It is within this framework that the RBAP vision is grounded in the AU's 2030 Agenda on Sustainable Development and 2063 Agenda, to which the LCBC member states are stakeholders.

Strategically, the RBAP vision is in line with the dynamics of the LCBC vision which states that: "by 2025, the Lake Chad region would like to see the Lake Chad "Shared Legacy" and other wetlands sustainably conserved to ensure economic security of the freshwater ecosystem resources, biodiversity and sustainable aquatic resources in the basin, and whose use should be equitable to meet the needs of the basin population and thus reduce the level of poverty".

As such, the RBAP vision states that:

> *"By 2028 the once lush natural resources and landscapes of the Lake Chad Basin are rehabilitated and managed sustainably and equitably to build resilience to climate variability and change, support inclusive economic growth, prosperity and enhance social cohesion, spirit of solidarity and sharing in a regional context of peace and security".*

1.3. RBAP Objective

The Overall objective of the RBAP is to strengthen fauna and flora diversity through the restoration and sustainable management of ecosystems as well as sensitive habitats, in particular, for the survival of the threatened and endemic species in the basin.

1.4. RAPB Expected outcomes

In relation to the Lake Chad Basin priority environmental problems identified in TDA, the following outcomes are expected from the RBAP:

- **O1:** Improved policy and institutional frameworks for biodiversity management in the LCB, including the process of ecosystem rehabilitation in the Basin;
- **O2**: Improved framework for enhancing fauna diversity through the restoration and management of natural resources for the integrated and sustainable development;
- **O3:** Creation of income-generating activities and strengthening of community resilience to enhance the biodiversity conservation and sustainable natural resource management efforts in the LCB.

1.5 Scope and methodology for developing the RBAP

The RBAP has a sub-regional scope, which is translated at the national level by the member states. The methodological approach adopted to develop this plan comprises six (6) main steps, as described below:

1.5.1 Meeting with the main stakeholders

- The consultant first met with the PMU. During these discussions, the aim was to reach a common understanding of the Terms of Reference and to adopt the methodology proposed by the consultant.
- Subsequently, the consultant met with biodiversity actors and stakeholders from the state structures, private sector and civil society, as well as indigenous peoples and local communities in the various LCBC member countries.

It should be noted that, due to the demands of the corona virus pandemic, three national consultants were recruited to meet with the key biodiversity stakeholders at the national level "Cameroon, Niger and Nigeria" in support of the international consultant.

1.5.2 Desk research

The objective of the desk research was to provide the consultant with in-depth information on the implementation of the Convention on Biological Diversity and to identify the difficulties and constraints encountered, as well as the related capacity building needs.

This phase enables to:

- Making an inventory of all documents dealing with past and ongoing national and regional biodiversity activities;
- Collecting and analysing ongoing capacity building initiatives for biodiversity promotion, to assess their strengths and weaknesses;
- Synthesising synergies between African position on the new post-2020 global biodiversity framework, SDGs and the AU Agenda 2063 in relation to the LCBC vision and member States' obligations;
- Analysing the priority needs of member states for institutional capacity on biodiversity;

1.5.3 Interviews with resource persons

Individual interviews with key informants were conducted using a semi-structured interview guide, and depending on the case, face-to-face, by email or telephone or via skype where appropriate, and taking into account the gender aspect with a range of key stakeholders grouped into four categories: i) Government officials; ii) Civil society organisations; iii) Project team, iv) Local and indigenous communities.

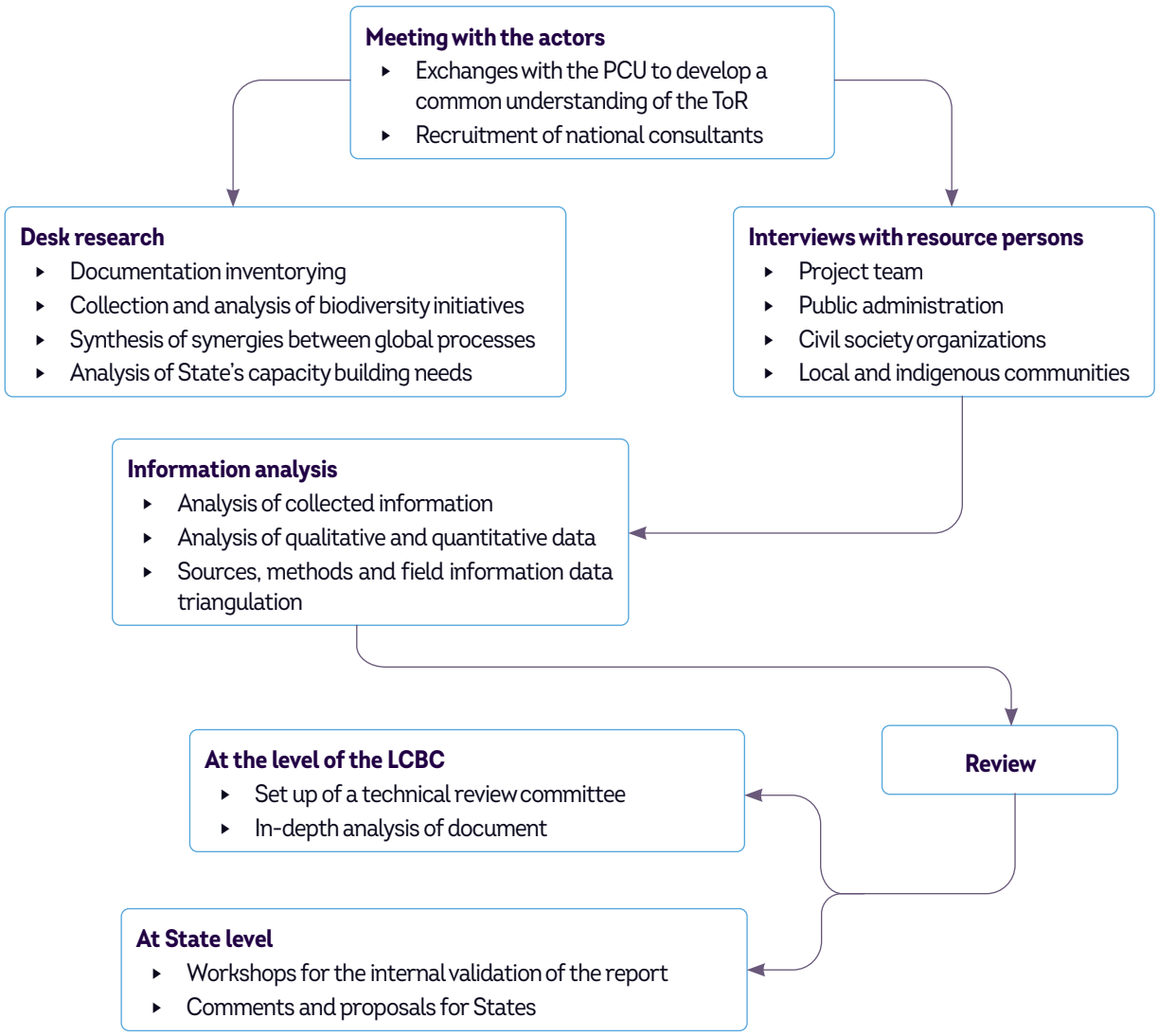


***Figure 3**: RBAP development process.*

1.5.4 Information processing and analysis phase

This stage consisted of processing and analysing all information collected in the previous phases. All data collected is analysed in an aggregated way by priorities and expected outcomes in order to encourage reliable feedback. Content analysis is applied to qualitative data. Qualitative responses are analysed with quantitative information. The analysis used data triangulation between sources, methods and field information to finalise the report. The quantitative analyses took into account the available figures to provide information on the existing situation.

1.5.5 Mid-term feedback

This feedback took the form of a review at two levels:

- At the LCBC level, a technical review committee, composed of LCBC experts, analysed the document thoroughly and made proposals and recommendations that were taken into account;
- At the State level, each Member State was able to hold an internal validation workshop on the report. The objective of these national workshops was to discuss, amend and validate the advanced versions of the report. At the end of these workshops, comments and proposals were sent back to the consultant to be integrated in the report. The final report was sent to the LCBC Review Committee for assessment. The figure below shows the processes involved in the preparation of the report.

02. Current Status of Ecosystems and Biodiversity Trends

2.1 Current status of the basin's ecosystems

The exceptional biodiversity of the Lake Chad basins is under great pressure. We aim to meet the needs of the communities dependent on different activities while preserving aquatic resources and biodiversity. To achieve this goal, we need to identify and implement community-centred opportunities to improve conservation, biological resource management and livelihoods. However, to address the loss of biodiversity due to the Lake Chad shrinking, a regional biodiversity action plan is needed. Unsustainable exploitation of aquatic resources and other development activities are putting increasing pressure on the freshwater systems of the Lake Chad Basin.

2.2 Current trends in biodiversity

Although it seems very difficult to define its current extent in a coherent way because of the insecurity in the basin that affects almost all protected areas and because of the lack of available data, biodiversity is declining in the Lake Chad Basin due to anthropogenic actions, damage and modifications of ecosystems that have increased in recent years.

With regard to fauna habitats, the example of protected areas is quite revealing. The basin's protected areas continue to suffer from pressure (human and natural). The States are unable to assume their responsibilities due to lack of resources, corruption, insufficiently qualified staff, and are faced with various challenges, such as the destruction of natural habitats. The consequences of this destruction of habitats have an impact on biodiversity and more particularly on fauna.

According to the IUCN red list (Table 1), the consequences of the destruction of fauna natural habitats are the cause of the alarming status of most of the species in the basin, some of which are critically endangered and others simply endangered.

With regard to the countries:

- Cameroon leads with (04) critically endangered and (09) endangered species;
- Chad, (04) Critically Endangered and (07) Endangered species;
- Niger, (03) Critically Endangered and (04) Endangered species;
- Nigeria, with (01) Critically Endangered and (05) Endangered species;
- Central African Republic, with only (05) endangered species.

With regard to the trends in plant biodiversity loss in the basin, several factors are at play, among which deforestation which is one of the greatest threats to biodiversity and climate. Many plant species such as Wolobugun in Bambara (Terminalia avicennoides), African Birch (Anogneissus leiocarpus), African Plum (Scleorcarya birrea) and grape tree (Lannea sp.) have disappeared from the basin's landscapes over the past few decades, as the need for charcoal and baking bricks is very high.

2.3 Causes of biodiversity loss and related consequences in LCB

In general, the causes of biodiversity loss identified in the Lake Chad basin are many. However, the following are the main ones: Climate change, population pressure, water pollution, land use change, destruction of natural habitats and invasive alien species.

a. **Climate change:** The Lake Chad Basin has been severely affected by climate change over the past decades, with very high variability in rainfall and hydrological patterns. Climate change has affected ecosystems. Water and forest resources are the two sectors most vulnerable to climate change. As a result of climate change, Chari River has lost half its inflow to the Lake Chad and the surface area of the lake itself has decreased from 25,000 km^2 in the 1960s to 2,500 km^2 in the 1970s and 1980s, only to increase again to 12,000 km^2 in 2012 [7]. Climate change has caused disasters that have affected lives of the people and bidiversity of the basin.

b. **Demographic pressure:** The basin population continues to grow rapidly, further increasing pressure on natural resources. At present (2012), the basin population is estimated at around 45 million, with a population growth rate

7 Lake Chad basin ecosystem status Report, 2012

Table 1: *Critically endangered and endangered species according to the IUCN Red List*

Critically Endangered Species						
Scientific name	**Common name**	**Cameroon**	**Niger**	**Nigeria**	**CAR**	**Chad**
Adday nasomaculatus	White antelope		x			x
Astylotemus ngantanus	Amphibian	x				
Diceros bicornis	Black Rhinoceros	x				
Gabbiella neothaumaeformis	Freshwater Snail		x			x
Mecistops cataphractus	Long-snouted Crocodile	x				
Nager dama	Dama gazelle		x			x
Vanellus gregarius	Sociable Lapwing	x		x		x
Endangered Species						
Amietophrynnus djohongesis	Amphibian	x				
Biomphalria tchadiensis	Freshwater snail	x		x		x
Gabbiella tchadiensis	Freshwater snail	x				x
Gazella leptceros	Slender-horned Dune Gazelle	x			x	
Gyps africanus	African Gyps	x	x	x		x
Gyps rueppelli	Vautour de ruppell	x	x	x	x	x
Lycaon pictus	African wild dog	x			x	x
Nerrosyrtes monactus	Brown periwinkle	x	x	x	x	x
Neophron percnopterus	Egyptian vulture	x	x	x	x	x

(Extract from the State of the Lake Chad Basin Ecosystem Report, 2016).

varying between 1.5 (Libya) and 3.7% (Niger) per year [8]. While ecosystems and water resources are being irreversibly degraded, due in particular to the deterioration of the climate, demographic pressure is increasing, with a high demand for wood energy. The most populated cities are Kano in Nigeria with more than 3,200,000 inhabitants, Maiduguri in Borno State, Nigeria with nearly 830,000 inhabitants and N'Djamena in Chad with more than one million inhabitants [9]. Overgrazing, fuelwood exploitation and shifting agriculture are factors that interact with biological resources and contribute to the decline in their viability. This demographic weight has a negative impact on water resources and more so on traditional economies of the basin, some of which are affected by the military-political crises. The ecological services of the wetlands are severely affected, leading to social tensions between populations over the sharing of the remaining and declining resources.

c. **Pollution**: Few data exist on water pollution, although some pollutants are well inventoried and documented. Water pollution is an environmental problem in the basin. The city of Kano (Nigeria) stands out with rapid multiplication of tanneries and textile industries, potential sources of industrial pollution. The best-known industrial sources of chemical pollution in the basin are tanneries, breweries, abattoirs and textiles. These industries are often located close to watercourses, which facilitates the discharge of untreated wastewater from the effluent. In the Chari-Logone basin, the use of fertilisers, herbicides and insecticides for cotton and rice cultivation is frequent. Municipal and industrial wastewater, dune sands, sediments and runoff are the main sources of pollution in the basin. According to the report on the state of the Lake Chad Basin Ecosystem, pollution is only slight and limited to traces of a few heavy metals (zinc, mercury, magnesium, etc.). In the long run, this could lead to problems of nitrate pollution of the water, if this use becomes excessive.

d. **Changes in land use:** In the basin, land is used in several ways:

8 Op cit
9 Transboundary Diagnostic Analysis,

Rainfed agriculture is practised in "wintering" i.e., during the rainy season and without irrigation. It is practised mainly in the Lake Chad and upstream basins of Chari-Logone and Komadougou-Yobé rivers. The Chari-Logone floodplains between Chad and Cameroon (Yaere-Naga) play an important role in the basin agricultural system. Irrigated agriculture is practised everywhere, in large developed areas and in small areas along rivers or around lakes. They are either irrigated by a groundwater catchment system, by pumping from surface water or a mixed system. It has developed to meet the growing demand of populations and climatic constraints.

In addition to depletion of arable land, deforestation also contributes to the variation of water cycle, decrease in biodiversity, destruction of wild terrestrial habitats and wetlands.

Urbanisation of large cities for commercial purposes is in turn a factor in degradation of biodiversity through construction of large buildings in areas that were previously protected.

e. **Destruction of natural habitats:** In the Lake Chad Basin, natural habitats constitute a wealth of fauna. Due to human pressure, advance of the desert and climate change effects, most of these natural habitats are destroyed for commercial purposes. Hunting of game and birds requires the practice of bushfires. These practices often result in destruction of habitats for certain animal species in the basin. Added to this is the destruction of certain sacred places that were once protected.
Mandelia Fauna Reserve and the area along the right bank of Logone were refuge areas for large mammals such as elephants, buffalo, wild dogs, Defassa cob, giraffe, hippopotamus, etc [10] . This area was severely affected by the politico-military unrest in the 1970s and 1980s. Natural habitats are generally destroyed as a result of pastoral activities, poaching, bush fires and charcoal exploitation.

f. **Invasive alien species (IAS)** are considered the second most important cause of biodiversity loss in the world. To date, the prevalence of invasive species has been identified as one of the priority environmental concerns in the LCB [11]. Three main invasive species are prevalent in the Lake Chad Basin:
cattail, a plant invasive specie best known in the basin, especially in the Hadejia Nguru wetlands of Nigeria. It causes the temporary diversion of Nguru River, which feeds the Lake Chad, and dries up irrigation canals where about 60% of farms wither in dry season; (ii) queleas queleas, "red-billed workbirds", find their refuge in the cattails. They live in large colonies and generally damage sorghum fields; (iii) Prosopis spa. Very present in the northern basin of the Lake Chad. This plant species causes serious problems for fishermen who cannot move in the shallow waters of the Lake Chad, as the trees and roots of Prosopis prevent movement of their pirogues.

It was found that this encroachment is a consequence of poor management of water resources, poor enforcement of environmental regulations and standards, and lack of planning of resource use, with impacts on the environment, water availability, and people's livelihoods. In economic terms, direct losses may occur in certain sectors such as agriculture, aquaculture, fishing and forestry.

2.3.1 Consequences of the Lake Chad basin drying up and loss of biodiversity in LCB.

a. on the population

Consequences that are currently being experienced are the water crisis that is very strong in the regions of Mayos (a river that flows through Northern Cameroon) and Chad and the rivers that surround the Lake Chad basin. This generates conflicts between the populations of neighbouring countries over the management and availability of water.

The progressive and irreversible drying up of the Lake Chad also leads inevitably to the loss of production capacity, destruction of crops, and indirectly plunges the populations of the region into famine. It also leads to tensions between the 4 countries over better land. The other consequence of the sudden and severe drying up of the water points is the considerable decline in fishing activities, which was a significant source of income for many families. This has led the inhabitants to switch to other less profitable activities, notably market gardening.

10 B. Aboubakar, The fauna of the Lake Chad Basin, 2021
11 LCBC Source : Five-year investement plan 2013-2017

b. Environmental and health consequences

The consequences of the drying up of the Lake Chad on the environment are many. We can retain:

- **Erosion** which is a much-localised phenomenon in the Lake Chad basin. It is mainly the result of cultivation, which causes the formation of dunes (in the case of Bol region, Niger and Diffa, Chad). Water erosion and hardening phenomena have changed the physical quality of the soil as a result of slash-and-burn cultivation and deforestation. The degradation of anti-erosion infrastructures and exposure of deforested areas to mechanical erosion. There is also the phenomenon of water loss through evaporation.
- **Desert encroachment:** One of the consequences of the drying up of the lake is the encroachment of the desert, due to low availability of its fresh water. Mainly due to recurrent droughts in the period from 1970 to 2008, the surface area of the Lake Chad has decreased by 90% as a result of decrease in the water regime of the rivers that feed it [12]. At the same time, the groundwater level, which follows the evolution of the surface water level, has also fallen. This phenomenon can be observed in the decrease in rainfall, drying up of the Lake Chad and the increasing scarcity of water resources.
- **Global warming.** Physiological behaviour of biodiversity in the basin is very stressed by climate disturbances, particularly for certain plant varieties. Of the twenty or so types of vegetation determined in the 1960s, only five remain in the basin [13]. More generally, the impact of climate change is contributing to deforestation, silting up of crop basins, degradation of livestock grazing, reduction in fish stocks due to lower water levels, etc. Deforestation and forest degradation erode the ecosystem services provided by forests and contribute to greenhouse gas emissions by reducing their area. They also reduce the capacity to sequester carbon [14].

  Global warming also reduces carbon sequestration capacity. It causes loss of life through flooding, for example, or indirectly through changes in disease vectors (e.g. mosquitoes), waterborne pathogens (e.g. cholera), water and air quality.

Figure 4: *Effects of the drying up of the Lake Chad on the environment (Source: TDA, 2018).*

With regard to the effects on human health, the humanitarian catastrophe that will follow the ecological disaster requires urgent interventions, which is why it is important to stop the tragic disappearance of the Lake Chad and save the livelihoods of the millions of people living in this region.

12 LCBC, Biodiversity Trends in the Lake Chad Basin, 2010
13 Op cit, 2012
14 André Leroy, Ecosystems of the Lake Chad Basin, 2011

Among the plant species that are in danger of disappearance as the lake dries up, some have medicinal and dietary value. This is the specific case of spirulina, an algae containing 70% protein and vitamins A and B12. Its disappearance causes appearance of diseases such as anemia, secondary neurological disorders due to vitamin B12 deficiency, cases of night blindness, dry skin and frequent infections, resulting from vitamin A deficiency [15]. The drying up of the lake also causes cholera, with a high mortality risk in the basin.

c. Security implications for the region

Water is a scarce resource and unevenly distributed across the LCB. In view of the population growth in these regions, this natural resource has become a major geopolitical issue. Very often a source of tension, water is also used as a tool of power in certain areas, such as around the Lake Chad.

Indeed, the Lake Chad drying up is causing the degradation of the quality of the surrounding land and drastic reduction of fish stocks. Cut in two, the Lake Chad is now composed of a northern, arid zone and a southern zone that is gradually shrinking. This phenomenon leads to the displacement of populations, who follow the water in order to continue fishing, cultivating and raising their herds. This is the case, for example, of nearly 60,000 Nigerians who, between 1980 and 1994, followed the receding waters of the Lake Chad into Cameroon, triggering strong hostilities between both peoples. In Nigeria, nearly 4,000 people were killed in clashes between farmers and herders between 2016 and 2019 [16].

Furthermore, the Lake Chad is one of the most dangerous and unstable areas: a resourceful oasis for those who manage to control it, it has become the focus of action for the armed group. Hidden in the many islets that make up the Lake Chad area, these armed groups also have a young population deprived of livelihoods: according to a study published by the University of Leeds in 2014, most of these young people represent a large proportion of the terrorist group's recruits.

d. Impact on the economy

There is insufficient data on the economic consequences of the loss of biodiversity in the Lake Chad basin. However, it can be said that the economy of the basin has suffered a decline. Fishing, which was one of the most attractive economic activities in the Lake Chad Basin in the years 2000-2005, has experienced a decline of 10% to 20% in the years 2015 [17].

Indeed, the populations live from commercial activities around the Lake Chad, notably fishing, livestock and agriculture. Nowadays, these populations are facing the effects of the lake drying up. The loss of income is enormous. The fish of the Komadougou Yobe and Lake Chad generate 20 billion CFA francs of annual income. But these catching areas are under the effects of the drying up of the lake and of insurgent fighters. The fish can no longer be caught and sold as in the past. Since February 2015, fishing has been slowed down there [18]. The problem is similar for the pepper trade, where markets have been closed.

Pepper production in the Diffa region has fallen by about 80%. The sector's products are usually worth 15 billion CFA francs annually . Tens of thousands of households are affected. The pepper fields are located on the shores of the Lake Chad and along Komadougou Yobe River.

All socio-economic activities are affected and overexploitation of water and land resources leads to conflict and migration. This drying up is at the origin of the deterioration of the region's agricultural production capacities, which are the source of income. This is currently the case in the department of Logone and Chari in Cameroon, where people are facing drought effects.

2.3.2 Theory of Change

The RBAP is built around a theory of change (Figure 5) that states that urgent strategic action in the LCB member countries is needed to transform patterns of socio-economic and financial development so as to stabilise the trends responsible for the worsening biodiversity loss over the next five years (by 2028), and to enable the recovery of natural ecosystems in the following years, with clear improvements after 2028 to achieve the LCBC vision.

15 Op Cit, 2018
16 Op Cit, 2018
17 Jonathan Davies, Biodiversity and the Great Green Wall: Managing Nature for Sustainable Development in the Sahel
18 Niger, the regional economy around Diffa victim of Boko Haram

This change will only be possible if a joint approach involving all governments and society is needed to make the changes required over the next five years as a stepping stone to achieving the LCBC vision.

This requires governments and societies to prioritise and allocate financial and other resources, to recognise the value of biodiversity, and to recognise the cost of what will be generated if action is not taken.

The RBAP theory of change assumes that transformative actions will be taken to i) put in place implementation tools and solutions, ii) reduce threats to biodiversity, and iii) ensure conservation and sustainable use of biodiversity for human well-being, and that these actions are supported by adequate enabling conditions and means of implementation. This theory also assumes that progress is monitored in a transparent and accountable manner, through evaluation activities, to ensure that by 2028 we are on track to achieve the LCBC vision for biodiversity.

Finally, the RBAP theory of change emphasises the need to consider gender, women's empowerment, youth, and the full and effective participation of indigenous peoples and local communities in the implementation of the RAPB. It is also based on the recognition that its implementation will be done in partnership with organisations at the international, national and local levels to foster a dynamic for success.

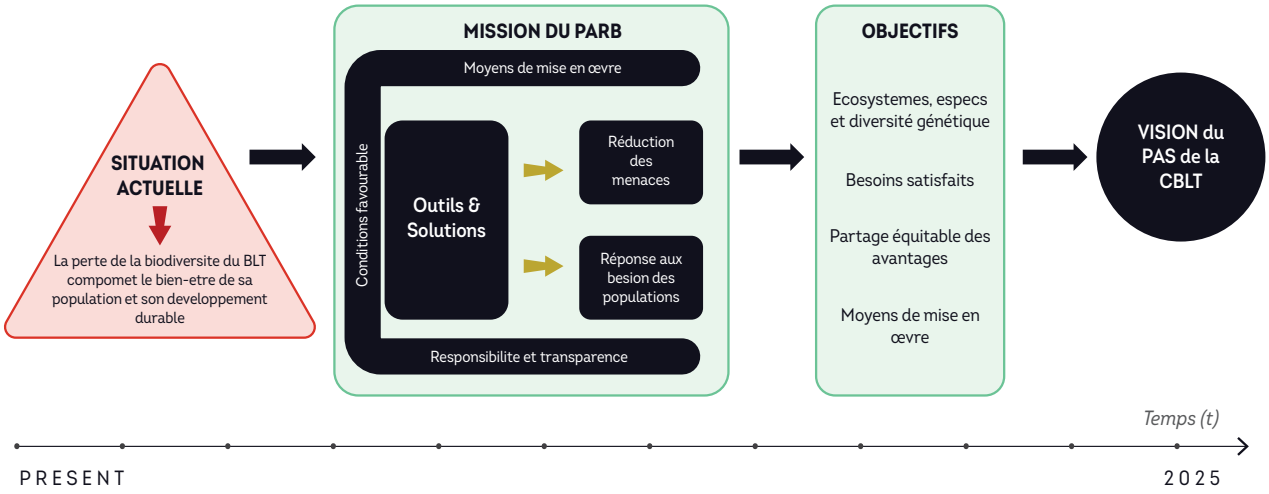


Figure 5: *RAPB theory of change.*

03. Priority Areas for Intervention

3.1 Logic of intervention

This RBAP comprises three (03) axes of intervention. These axes are considered as priority components. Each axis of intervention is composed of targets (specific objective) and activities.

The RBAP operationalisation will be achieved thanks to the financing support of the Financial Technical Partners (FTP). Having been developed jointly with the SAP, the RBAP selected activities will therefore have to be prepared with the effective participation of all stakeholders. The roles and responsibilities of each stakeholder will have to be precisely identified, as well as the mechanisms of accountability and collaboration, which will be clarified and confirmed in a contractual document.

3.2 Timeframe

The RBAP has a duration of 5 years (2023 to 2028). It is operational. At the end of each of these axes, the implementation will have to be evaluated annually, and order of priorities will have to be updated. It is recognised that the order of priorities in the implementation of the RBAP may change. These priorities should be set and updated according to the outcomes of a national consultation process, which should be validated by the LCBC steering body.

3.3 Priority Area 1: Enhancement of the sustainable management of biological resources

Target 3.3.1: Promote a (sustainable) management policy for the basin's biological resources.

Activities:

- Establish a policy framework for biodiversity restoration in the basin;
- Take into account biodiversity issues in relation to the Kunming-Montreal Global Biodiversity Framework and national development strategies;
- Revise the legal and institutional framework and policy reforms for the management of biological resources in the Member States in line with the Kunming-Montreal Global Biodiversity Framework.

Target 3.3.2: Encourage Member States to develop and strengthen their policies for the enhancement and sustainable use of the basin's biological resources.

Activities:

- Support Member States to set up effective and efficient monitoring and surveillance systems or programmes for the sustainable use of natural resources of Lake Chad
- Support, at the level of each Member State, the establishment of a platform for civil society exchange on issues relating to the development and sustainable use of the basin's biological resources.

Target 3.3.3: Involve all stakeholders in decision-making on improving the sustainable management of the basin's biological resources.

Activities:

- Set up an awareness-raising and capacity-building programme for elected representatives, administrative authorities, indigenous peoples and local communities, young people and women on improving the sustainable management of the basin's biological resources.;
- Set up a network of councils to increase the participation of local elected representatives in implementing policies to improve the management of the basin's biological resources.

Target 3.3.4: Capitalise on relevant experience and traditional know-how for the sustainable management of the basin's biological resources.

Activities::

- Create a framework for consultation at national level with a view to sharing experience and best practice at regional level on the management of the basin's biological resources.

Target 3.3.5: Strengthen policy awareness at State level on the management of biological resources.

Activities::

- Strengthen dialogue between Member States on issues relating to the management of biological resources in the Lake Chad Basin;
- Implement action plans to optimise efforts to monitor the use of resources at national and regional level;
- Revitalise the parliamentary network in the Lake Chad Basin to lobby and advocate political decision-makers on an ongoing basis to ensure that biodiversity is taken into account in the allocation of budgetary resources at national level.

Target 3.3.6: Make more effective measures to control the basin's biological resources

Activities:

- Implement measures to control the use of Lake Chad's biological resources;
- Strengthen the monitoring of water levels in Lake Chad and its tributaries in order to ensure ecological flows in the basin.

Target 3.3.7: Harmonise policies and strategies for the management of the basin's biological resources.

Activities:

- Carry out studies to assess the level of convergence of the biological resources management policies and strategies of the basin's member countries.;
- Develop a common strategy and policy document for the management of the basin's biological resources.

Taget 3.3.8: Promote the sustainable use and management of the basin's ecosystems.

Activities:

- Develop and implement a programme to rehabilitate buffer zone corridors and portions of illegally appropriated land;
- Develop pilot programmes for the conservation and sustainable management of wetlands;
- Promote activities to restore ecosystems and degraded land in the basin;
- Develop ecotourist pilot projects based on existing successful models in other countries.

Taget 3.3.9: Capacity-building of stakeholders on the management of biological resources

Activities:

- Develop and implement awareness-raising and education programmes on the sustainable management of the basin's biological resources and ecosystem services.
- Develop capacity-building initiatives on the sustainable management of the basin's biological resources and ecosystem services.

3.4 Priority Area 2: Enhancement of knowledge and monitoring of biodiversity in the LCB

Target 3.4.1: Enhance biodiversity knowledge in the basin.

Activities:

- Make a biodiversity current state of play in the basin and a periodic and systematic assessment of the stakeholders involved;
- Carry out periodic inventories and ecological monitoring of the basin's biological resources;
- Set up a solid database system on the basin's biological resources for better planning.

Target 3.4.2: Ensure effective monitoring of biodiversity in the basin.

Activities:

- Periodically assess the level of degradation of the basin's biological resources;
- Set up a system for monitoring, collecting and managing biodiversity-related information;
- Promote the sharing and dissemination of biodiversity monitoring findings in the basin;
- Promote best monitoring practices managed by beneficiary communities
- Assess the level of implementation of the RBAP by the Member States;
- Open dialogue with stakeholders on the findings of the analysis of biodiversity assessment and the implementation of the RBAP, and formulate recommendations.

3.5 Priority Area 3: Sustainable use and equitable sharing of benefits arising from the exploitation of biological and genetic resources

Target 3.5.1: Strengthen the development of value chains of the basin's biological and genetic resources.

Activities:

- Ensure capacity-building of community groups on the Nagoya Protocol on access and benefit- sharing arising from the exploitation of genetic resources (ABS);
- Assess and enhance traditional knowledge associated with biological and genetic resources;
- Develop value chains based on the LCB's biological resources;
- Operationalise the process for obtaining NTFP exploitation permits in the LCB States.

Target 3.5.2: Strengthen the socio-economic activities of local communities, taking into account the gender aspect.

Activities:

- Set up income-generating initiatives targeting women, young people and vulnerable groups;
- Support small-scale producers in the areas of food production and small livestock;
- Create sustainable agro-pastoral innovations for indigenous and local populations;
- Create indigenous mechanisms for income-generating activities (IGA) in line with the protection of biological resources.

Target 3.5.3: Support and assist indigenous peoples and local communities in the creation of alternative activities to reduce pressure on the basin's biological resources.

Activities:

- Promote renewable energy activities;
- Promote activities in the field of aquaculture, compost and fodder crops;
- Encourage councils to promote waste recycling activities to help clean up the basin's ecosystems.

Target 3.5.4: Support and ensure capacity-building of farmers and associated sectors in the use of healthy production techniques in line with the implementation of the Cartagena Protocol on Biosafety.

Activities:

- Support and encourage agro-pastoral producers to use organic inputs in their production chain;
- Build the capacity of stakeholders in line with the Cartagena Protocol and its implementing procedures;
- Assist and support Member States to develop legal instruments relating to the implementation of the Cartagena Protocol on Biosafety;
- Set up an aggregated biotechnology laboratory that takes account of biosecurity at basin level.

Target 3.5.5: Promote local governance of the basin's biological resources.

Activities:

- Build the capacity of local populations in the area of biological resources governance;
- Increase local stakeholders' knowledge of the land degradation process with a view to rational use of the basin's biological resources;
- Involve community leaders in decision-making on the sustainable management of the basin's biological resources;
- Take into account sustainable resource management issues in the process of developing or updating regional/ provincial/ communal development plans.

Target 3.5.6: Increase public participation in the sustainable management of the basin's biological resources.

Activities:

- Support community-based micro-projects on the management and sustainable use of biological resources in the basin;
- Establish a "Friends of the Lake Chad Basin" programme with the aim of organising an annual competition on best practice in the area of sustainable management of the basin's biological resources.

Target 3.5.7: Promote the use of renewable energies within communities.

Activities:

- Building the capacity of local communities to use renewable energies;
- Support local communities to access renewable energy equipment in the basin.

Table 2: *Summary of the RBAP axes, targets, activities and expected outcomes.*

PRIORITY AREA 1: ENHANCEMENT OF THE SUSTAINABLE MANAGEMENT OF BIOLOGICAL RESOURCES			
Targets	**Activities**	**Expected Results**	**Responsibility**
Target 1.1. Promote a (sustainable) management policy for the basin's biological resources.	▸ Establish a policy framework for biodiversity restoration in the basin; ▸ Take into account biodiversity issues in relation to the Kunming-Montreal Global Biodiversity Framework and national development strategies; ▸ Revise the legal and institutional framework and policy reforms for the management of biological resources in the Member States in line with the Kunming-Montreal Global Biodiversity Framework.	▸ There is an existing policy framework for the restoration of biodiversity; ▸ Biodiversity is taken into account in national development policies; ▸ The legal and institutional framework for the management of biological resources in the basin is revised.	▸ LCBC, institutions working on the environment, supervisory ministries, etc.
Target 1.2. Encourage Member States to develop and strengthen their policies for the enhancement and sustainable use of the basin's biological resources.	▸ Support Member States to set up effective and efficient monitoring and surveillance systems or programmes for the sustainable use of natural resources of Lake Chad ▸ Support, at the level of each Member State, the establishment of a platform for civil society exchange on issues relating to the development and sustainable use of the basin's biological resources.	▸ Effective control and monitoring systems for the sustainable use of biological resources are developed; ▸ A platform for civil society exchange on issues relating to the development of biological resources is established.	▸ LCBC, institutions working on the environment, supervisory ministries, etc.
Target 1.3. Involve all stakeholders in decision-making on improving the sustainable management of the basin's biological resources.	▸ Set up an awareness-raising and capacity-building programme for elected representatives, administrative authorities, indigenous peoples and local communities, young people and women on improving the sustainable management of the basin's biological resources.; ▸ Set up a network of councils to increase the participation of local elected representatives in implementing policies to improve the management of the basin's biological resources.	▸ An awareness-raising and capacity-building programme for elected representatives, administrative authorities, indigenous peoples and local communities, young people and women on improving the sustainable management of the basin's biological resources is set up; ▸ A network of councils to increase the involvement of local elected representatives in implementing policies geared towards improving the management of the basin's biological resources is set up.	▸ LCBC, institutions working on the environment, supervisory ministries, etc.
Target 1.4. Capitalise on relevant experience and traditional know-how for the sustainable management of the basin's biological resources.	▸ Create a framework for consultation at national level with a view to sharing experience and best practice at regional level on the management of the basin's biological resources.	▸ A framework for consultation at national level with a view to sharing experience and best practice at regional level on the management of the basin's biological resources is created.	▸ LCBC, institutions working on the environment, supervisory ministries, etc.
Target 1.5. Strengthen policy awareness at State level on the management of biological resources	▸ Strengthen dialogue between Member States on issues relating to the management of biological resources in the Lake Chad Basin; ▸ Implement action plans to optimise efforts to monitor the use of resources at national and regional level; ▸ Revitalise the parliamentary network in the Lake Chad Basin to lobby and advocate political decision-makers on an ongoing basis to ensure that biodiversity is taken into account in the allocation of budgetary resources at national level.	▸ Member States that have a dialogue framework on issues relating to the management of biological resources in the Lake Chad Basin; ▸ Action plans to optimise efforts to monitor the use of resources at national and regional level are implemented; ▸ The parliamentary network of the Lake Chad Basin is operational.	▸ LCBC, institutions working on the environment, supervisory ministries, etc.
Target 1.6. Make more effective measures to control the basin's biological resources	▸ Implement measures to control the use of Lake Chad's biological resources; ▸ Strengthen the monitoring of water levels in Lake Chad and its tributaries in order to ensure ecological flows in the basin.	▸ Measures to control the use of Lake Chad's biological resources are operational; ▸ Water resources in Lake Chad are regularly monitored to ensure ecological flows.	▸ LCBC, institutions working on the environment, supervisory ministries, etc.
Target 1.7. Harmonise policies and strategies for the management of the basin's biological resources	▸ Carry out studies to assess the level of convergence of the biological resources management policies and strategies of the basin's member countries.; ▸ Develop a common strategy and policy document for the management of the basin's biological resources.	▸ The level of convergence of the biological resources management policies and strategies of the basin's member countries is assessed; ▸ A common strategy and policy document for the management of the basin's biological resources is developed.	▸ LCBC, institutions working on the environment, supervisory ministries, etc.

PRIORITY AREA 1: ENHANCEMENT OF THE SUSTAINABLE MANAGEMENT OF BIOLOGICAL RESOURCES			
Target 1.8. Promote the sustainable use and management of the basin's ecosystems	▸ Develop and implement a programme to rehabilitate buffer zone corridors and portions of illegally appropriated land; ▸ Develop pilot programmes for the conservation and sustainable management of wetlands; ▸ Promote activities to restore ecosystems and degraded land in the basin; ▸ Develop ecotourist pilot projects based on existing successful models in other countries.	▸ A programme to rehabilitate corridors, buffer zones and portions of illegally appropriated land is developed and implemented ▸ Pilot programmes for the conservation and sustainable management of wetlands are developed; ▸ Activities to restore degraded ecosystems and land in the basin are promoted; ▸ Pilot ecotourist projects based on existing successful models are developed.	▸ LCBC, institutions working on the environment, supervisory ministries, etc.
Target 1.9. Capacity-building of stakeholders on the management of biological resources	▸ Develop and implement awareness-raising and education programmes on the sustainable management of the basin's biological resources and ecosystem services. ▸ Develop capacity-building initiatives on the sustainable management of the basin's biological resources and ecosystem services	▸ The LCB countries have and are implementing awareness-raising and education programmes on the sustainable management of biological resources and ecosystem services; ▸ Capacity-building initiatives on the sustainable management of the basin's biological resources and ecosystem services are developed.	▸ LCBC, institutions working on the environment, supervisory ministries, etc.

PRIORITY AREA 2: ENHANCEMENT OF KNOWLEDGE AND MONITORING OF BIODIVERSITY IN THE LCB			
Target 2.1. Enhance biodiversity knowledge in the basin	▸ Make a biodiversity current state of play in the basin and a periodic and systematic assessment of the stakeholders involved; ▸ Carry out periodic inventories and ecological monitoring of the basin's biological resources; ▸ Set up a solid database system on the basin's biological resources for better planning.	▸ The current state of play in the basin and a periodic and systematic assessment of the stakeholders involved is carried out; ▸ Periodic inventories and ecological monitoring of the basin's biological resources is carried out; ▸ A solid database system on the basin's biological resources is set up.	▸ LCBC, institutions working on the environment, supervisory ministries, etc.
Target 2.2. Ensure effective monitoring of biodiversity in the basin	▸ Periodically assess the level of degradation of the basin's biological resources; ▸ Set up a system for monitoring, collecting and managing biodiversity-related information; ▸ Promote the sharing and dissemination of biodiversity monitoring findings in the basin; ▸ Promote best monitoring practices managed by beneficiary communities ▸ Assess the level of implementation of the RBAP by the Member States; ▸ Open dialogue with stakeholders on the findings of the analysis of biodiversity assessment and the implementation of the RBAP, and formulate recommendations	▸ The level of degradation of the basin's biological resources is known; ▸ A system for monitoring, collecting and managing biodiversity-related information is operational; ▸ The sharing and dissemination of the findings of biodiversity monitoring in the basin is promoted; ▸ The level of implementation of the PARB by Member States is assessed and known; ▸ Best monitoring practices managed by the beneficiary communities are promoted; ▸ Dialogue with stakeholders on the findings of the analysis of biodiversity assessment and the implementation of the RBAP is open and recommendations are formulated	▸ LCBC, institutions working on the environment, supervisory ministries, etc.

PRIORITY AREA 3: SUSTAINABLE USE AND EQUITABLE SHARING OF BENEFITS ARISING FROM THE EXPLOITATION OF BIOLOGICAL AND GENETIC RESOURCES			
Target 3.1. Strengthen the development of value chains of the basin's biological and genetic resources	▸ Ensure capacity-building of community groups on the Nagoya Protocol on access and benefit- sharing arising from the exploitation of genetic resources (ABS); ▸ Assess and enhance traditional knowledge associated with biological and genetic resources; ▸ Develop value chains based on the LCB's biological resources; ▸ Operationalise the process for obtaining NTFP exploitation permits in the LCB States.	▸ Capacity-building of community groups are effectively strengthened on the Nagoya Protocol on access and benefit- sharing arising from the exploitation of genetic resources (ABS); ▸ Traditional knowledge associated with biological and genetic resources is assessed and enhanced; ▸ Value chains based on the LCB's biological resources are developed; ▸ The process for obtaining NTFP exploitation permits in the LCB States is operational.	▸ LCBC, institutions working on the environment, supervisory ministries, etc.
Target 3.2. Strengthen the socio-economic activities of local communities, taking into account the gender aspect	▸ Set up income-generating initiatives targeting women, young people and vulnerable groups; ▸ Support small-scale producers in the areas of food production and small livestock; ▸ Create sustainable agro-pastoral innovations for indigenous and local populations; ▸ Create indigenous mechanisms for income-generating activities (IGA) in line with the protection of biological resources.	▸ Income-generating initiatives targeting women, young people and vulnerable groups are put in place; ▸ Small-scale producers in the areas of food production and small livestock are provided support; ▸ Sustainable agro-pastoral innovations for indigenous and local populations are created; ▸ Indigenous mechanisms for income-generating activities (IGA) in line with the protection of biological resources are created.	▸ LCBC, institutions working on the environment, supervisory ministries, etc.
Target 3.3. Support and assist indigenous peoples and local communities in the creation of alternative activities to reduce pressure on the basin's biological resources	▸ Promote renewable energy activities; ▸ Promote activities in the field of aquaculture, compost and fodder crops; ▸ Encourage councils to promote waste recycling activities to help clean up the basin's ecosystems.	▸ Renewable energy activities are promoted; ▸ Activities in the field of aquaculture, compost and fodder crops are promoted; ▸ Communities are encouraged to promote waste recycling initiatives to help clean up the basin's ecosystems;	▸ LCBC, institutions working on the environment, supervisory ministries, etc.
Target 3.4. Support and ensure capacity-building of farmers and associated sectors in the use of healthy production techniques in line with the implementation of the Cartagena Protocol on Biosafety.	▸ Support and encourage agro-pastoral producers to use organic inputs in their production chain; ▸ Build the capacity of stakeholders in line with the Cartagena Protocol and its implementing procedures; ▸ Assist and support Member States to develop legal instruments relating to the implementation of the Cartagena Protocol on Biosafety; ▸ Set up an aggregated biotechnology laboratory that takes account of biosecurity at basin level.	▸ Agro-pastoral producers are provided support and encouraged to use organic inputs in their production chain; ▸ Capacity-building of stakeholders are strengthened in line with the Cartagena Protocol and its implementing procedures; ▸ Member States are assisted and provided support to develop legal instruments relating to the implementation of the Cartagena Protocol on Biosafety; ▸ An aggregated biotechnology laboratory is set up, taking account biosecurity at basin level.	▸ LCBC, institutions working on the environment, supervisory ministries, etc.

PRIORITY AREA 3: SUSTAINABLE USE AND EQUITABLE SHARING OF BENEFITS ARISING FROM THE EXPLOITATION OF BIOLOGICAL AND GENETIC RESOURCES			
Target 3.5. Promote local governance of the basin's biological resources	▸ Build the capacity of local populations in the area of biological resources governance; ▸ Increase local stakeholders' knowledge of the land degradation process with a view to rational use of the basin's biological resources; ▸ Involve community leaders in decision-making on the sustainable management of the basin's biological resources; ▸ Take into account sustainable resource management issues in the process of developing or updating regional/ provincial/communal development plans.	▸ Capacity-building of local populations are strengthened in the area of biological resources governance; ▸ Local stakeholders' knowledge on the land degradation process with a view to rational use of the basin's biological resources are strengthened; ▸ Community leaders are involved in decision-making on the sustainable management of the basin's biological resources; ▸ Sustainable resource management issues are taken into account in the process of developing or updating regional/ provincial/communal development plans.	▸ LCBC, institutions working on the environment, supervisory ministries, etc.
Target 3.6. Increase public participation in the sustainable management of the basin's biological resources	▸ Support community-based micro-projects on the management and sustainable use of biological resources in the basin; ▸ Establish a "Friends of the Lake Chad Basin" programme with the aim of organising an annual competition on best practice in the area of sustainable management of the basin's biological resources.	▸ Community-based micro-projects on the management and sustainable use of biological resources in the basin are provided support; ▸ A "Friends of the Lake Chad Basin" programme is established with the aim of organising an annual competition on best practice in the area of sustainable	▸ LCBC, institutions working on the environment, supervisory ministries, etc.
Target 3.7. Promote the use of renewable energies within communities	▸ Building the capacity of local communities to use renewable energies; ▸ Support local communities to access renewable energy equipment in the basin.	▸ Capacity-building of local communities are strengthened to use renewable energies; ▸ Local communities are provided support to access renewable energy equipment in the basin.	▸ LCBC, institutions working on the environment, supervisory ministries, etc.

04. Implementation, Monitoring, Evaluation and Capitalisation Mechanisms

Achieving the objectives and practical implementation of the RBAP requires a favourable legal and institutional environment and relevant expertise for an effective communication. These concerns are taken into account through the intervention axes, aiming at creating a framework for responsible governance. An important dimension of this framework concerns the operationalisation and implementation of international conventions on biodiversity. Capacity building at all levels and the implementation of an effective monitoring and evaluation system are key components of the governance framework.

4.1 Stakeholder analysis and participation

In the framework of the RBAP implementation, the following stakeholders and their roles are mentioned below:

a. State and its agencies

- Defining the biodiversity policies and strategies and developing the planning tools (natural resource inventories, development and exploitation master plans, etc.);
- Implementing the institutional projects;
- Defining and monitoring the application of the legislative and regulatory framework at national level (forestry code, rural code, hunting code, etc.) and monitoring international conventions;
- Coordinating and harmonising the implementation of actions, particularly at civil society level;
- Carrying out major works for the rehabilitation of degraded ecosystems (large areas, parks and water bodies, wetlands, etc.);
- Supporting fund mobilisation;
- Developing international cooperation;
- Facilitating, informing, raising awareness of and advising the stakeholders, especially the population;
- Performing research, training and control of genetic material;
- Carrying out various studies, promoting and capitalising the results of studies;
- Protecting nature, developing zoological gardens;
- Conserving biological diversity;
- Encouraging the emergence of civil society;
- Monitoring and evaluation of actions;
- Defining strategies at national and local levels;
- Elaborating and implementating master plans and national development plans for natural resource management (NRM);
- Creating and developing protected areas;

b. Private sector

Developing commercial sectors (fuelwood, mineral coal, improved stoves, secondary forest products, agricultural products, fishing, hunting and livestock products);

Developing private wood production (seedling production, private plantations, etc.);

- Forestry work companies;
- Industrial processing of products (secondary forestry, agricultural, fishing, hunting and livestock products);
- Developing pharmacopoeia and traditional medicine;
- Contributing to the conservation of biological diversity (development of farm and ranch game);
- Supplying inputs (fertilisers, zootechnical products, pesticides, production materials, fishing gear, etc.), contribution to the development of hunting tourism;
- Training, informing, raising-awareness and internal monitoring and evaluation
- Supporting the mobilisation of rural savings.

c. Local authorities

- Managing the community forests;

- Informing, training and raising awareness of local and indigenous populations;
- Developing, implementing and monitoring-evaluation the communal projects;
- Developing decentralised cooperation;
- Participating in the rational management of hunting areas at local level;
- Participating in the management of protected areas.

d. Rural communities

- Participating in the elaboration and implementation of rural development actions through the management of halieutic, hydric and pastoral forest resources, the production of seedlings and reforestation, etc.;
- Participating in wood energy production, fish farming and beekeeping;
- Participation in the establishment and operation of savings and credit mobilisation systems in rural areas;
- Participation in works of community interest;
- Monitoring and evaluation of actions.

e. NGOs and associations

- Developing and implementing (including fundraising mobilisation) projects in accordance with guidelines set by the government;
- Training and raising awareness of population on the sustainable management of biological resources;
- Participating in natural resource management studies and exploiting of the results obtained;
- Supporting the organisation of grassroots populations for community actions;
- Monitoring and evaluation of actions.

NB: Some categories of actors, although included in those defined above, must be specified. These are:

f. Customary and Communal Authorities

- As they are in direct and permanent contact with the population, they must carry out the following tasks:
- Making census and identifying the population's needs;
- Informing and sensitising the population;
- Monitoring and implementing the RBAP activities;
- Mobilising the population for the identification, planning, implementation and self-evaluation of actions;
- Mobilising local resources.

g. Research and training institutions

In a context of research-action and due to the transversal nature of their fields of intervention, they must contribute to the sustainable management of biological resources through:

- Identifying and developing basin biological resources management research and training programmes and projects;
- Creating a consultation framework between the different research institutions for biological resources management;
- Supporting and advising the various partners on the biodiversity research;
- Participating in studies selected as part of the RBAP implementation;
- Promoting research and the provision of biological resources management services.
- Popularising the research results.

h. The media

The media, as the main body par excellence for communicating, collecting and disseminating information, must play an important role in the implementation of the RBAP through:

- Producing radio and television programmes in French, English and national languages on the RBAP process

- Strengthening and revitalising the slots reserved for programmes on the environment and sustainable development;
- Publishing and disseminating articles on the environment in newspapers;
- Broadcasting of the programmes dedicated to activities within the framework of the RBAP;

i. The population

As the main beneficiaries of the RBAP projects and actions, the population, particularly women and young people, must be involved in the RBAP implementation process both upstream and downstream. In this regard, they are assigned the following missions:

- Participating in and facilitating information and awareness-raising meetings;
- Identifiifying, with other actors, the needs that could be subject of sustainable development projects and programmes
- Activelly participating in the implementation and monitoring-evaluation of the RBAP;
- Be involved in the implementation of the RBAP activities, with a view to their sustainability;
- Community input into the implementation of the RBAP;
- Collecting and disseminating information at the local level;

j. People representatives (MP and councillors)

Elected by the people to be their representatives at national institutions, MP and councillors, within the framework of the RBAP implementation, have the following missions:

- Facilitating and sensitising the population on the RBAP;
- Participating in the mobilisation of finances for RBAP activities;
- Proposing policy reforms to take into account the RBAP in national policies;
- Advocating for the mobilisation of sufficient financial resources for the RBAP implementation through the finance law and community budgets.

k. Technical and financial partners

Within the framework of implementating the RBAP, the technical and financial partners have the following roles:

- Pooling their respective efforts to provide sustained support to the RBAP;
- Supporting the strengthening of national skills in biological resource management;
- Mobilising material, financial and human resources for the implementation and monitoring of the RAPB projects;
- Information on the existence of support possibilities at the level of international institutions and/or conventions;
- Technical support in the design of projects within the framework of the RBAP;
- Developing a framework for consultation between TFPs on the one hand and between the latter and national institutions, NGOs and associations on the other.

4.2 Institutional, legal and political frameworks (Roles and Responsibilities)

a. Institutional framework

The institutional framework for RBAP implementation consists of LCBC ministries, agencies and focal points in the member countries. The LCBC member countries have each designated a ministry or other government agency to serve as the focal point on the Lake Chad Basin issues in the country.

It is the responsibility of these focal points to ensure that each country is represented in the meetings, bodies and work of the LCBC, according to an organisation and strategy specific to each State. In addition, the current practice in the four countries is for these correspondents to ensure the appointment of their deputies, i.e., persons specially designated to deal with matters concerning the Lake Chad Basin as part of their daily work, the processing of files concerning the Lake Chad.

1. Main national ministries and agencies in charge of natural resources management

At the level of each riparian country, the management and protection of biological resources is ensured by many different stakeholders, whether from the public and private sectors, or from civil society. The public sector actors generally perform functions related to environmental issues.

Table 3: *LCBC Focal Point Agencies and Ministries in the Lake Chad Riparian Countries*

Country	Ministry or agency (focal point)	Role et Missions
CAMEROON	Ministry of Economy, Planning and Land Management (MINEPAT)	Coordinates development actions in the transboundary basins, including the Lake Chad Basin area.
NIGER	Ministry of Hydraulics and Sanitation	Designs, plans, implements and evaluates the water and environment policy throughout the country in conjunction with other ministries and local authorities
NIGERIA	Federal Ministry of Water Resources Management	Draws up the national water resources management policy and ensures its implementation.
CHAD	Ministry of Hydraulics and Livestock	Executes the government's policy on hydraulic infrastructures, knowledge, monitoring, and exploitation of water resources, meteorology and livestock.
CAR	Ministry of Water, Forests, Hunting and Fishing (MEFPC)	Executes the forestry policy and exploitation of natural resources.

Several international organisations are involved in financing projects and programmes related to biological management in the Lake Chad Basin and in providing technical support to the four (4) riparian countries and the Executive Secretariat of LCBC. These include the German Agency for International Development Cooperation (GIZ), the German Technical Development Agency (BGR), the Global Environment Facility (GEF), the World Bank (WB), the United Nations Development Programme (UNDP), the African Development Bank (ADB), the United States Agency for International Development (USAID), the World Health Organisation (WHO) and the Islamic Development Bank (IDB).

In addition, several regional organisations, covering partially or totally the Lake Chad Basin, have developed policies, projects and programmes concerning agriculture, environment and the fight against desertification, water, transport, energy, etc. For example, there is the Comprehensive Africa Agriculture Development Programme (CAADP) of the New Partnership for Africa's Development (NEPAD), the NEPAD Action Plan for Fisheries and Aquaculture Development in Africa, the NEPAD Short Term Action Plan for Transboundary Water Resources, actions to implement international conventions (Convention to Combat Desertification (CCD), Convention on Wetlands (RAMSAR), sub-regional action programmes to combat desertification in West and Central Africa.

2. Main ministries and national bodies in charge of biological resources management

At the level of each State, the management and protection of biological resources is carried out by various stakeholders (public, private and civil society). The table below shows the main stakeholders in the management of biological resources by state.

b. Policy framework

In each of the four LCBC member countries, there are biological resources management policies and strategies. In general, these Countries have developed, adopted and documented multiple national biological resources management policies and strategies. In view of the above, the development of the policy framework for this RBAP is based on the policy framework of:

- The Summit of Heads of State, the political body responsible for policy development and strategic guidance;
- The Council of Ministers, the technical body made up of specialists from each Member State. It is responsible for the harmonisation of water resources management, the implementation of LCBC recommendations in the Member States institutions and preparation of technical documents for the Council of Commissioners meetings;
- The Executive Secretariat, the executive body whose main tasks is to ensure the application of the principles set out in the Convention and the implementation of the Commission's tasks and visions.

Table 4: *Ministries and agencies involved in the management of biological resources in the basin.*

Main national ministries and agencies in charge of water management		**Role/Missions**
Country		
CAMEROON	Ministry of the Environment, Nature Protection and Sustainable Development (MINEPDED)	In charge of elaborating and implementating the government's policy on the environment and nature protection in a sustainable development perspective.
NIGER	Ministry of the Environment, Urban Health and Sustainable Development	Monitors the impacts of natural resource degradation accelerated by climate change and the restoration measures and implementation of environmental conventions
	Ministry of Livestock and Animal Industries	Ensures the implementation of the pastoral water policy, in relation with other ministries and institutions concerned
	Ministry of Agriculture	Ensures the use of agricultural land and hydro-agricultural facilities
	Ministry of Planning, Land Management and Community Development	Ensures the planning of actions
	Niger Water Exploitation Company (SEEN)	Produces, transports and distributes water in urban and semi-urban areas
	Niger Water Patrimony Company (SPEN)	Manages the water resources and their development, and is in charge for the construction and management of new and extended infrastructure
NIGER	Ministry of the Interior,Public Security, Customary and Religious Affairs	Through its regional and local representatives (Prefects and Governors) ensures the issuance of authorisations for water abstraction and drilling of water points as well as the security of the territory.
NIGERIA	Ministry of the Environment.	
	States Agencies in charge of water resources	Provides drinking water
	Local Authorities	Ensures the development of agriculture and natural resources
CHAD	Ministry of Environment and Agriculture	Ensures the implementation of government's policy on the environment and fisheries resources
	Ministry of Water and Livestock	Coordinates, facilitates, designs, implements and monitors policy on pastoral and livestock development and on planning and capacity building;
		Ensures the formulation and implementation of policies and strategies related to hydro-agricultural facilities and the construction of related infrastructure
	High National Committee for the Environment (HCNE)	Ensures environmental sustainability for all development issues, including those related to water sector.
CAR	Ministry of the Environment and Sustainable Development	Develops and gives strategic direction to national environmental policy
	Ministry of Water and Forests	Develops and implements Government's policy in the field of Water, Forests, Hunting and Fishing
	Ministry of Agriculture	Develops and guides the national policy.

c. Legal framework

The biological resources management and protection legal framework in each Member State consists of national legislation and bilateral and multilateral agreements on the biological resources sustainable management. Since the entry into force of the UNCCD, CBD and UNFCCC, the reform of several texts and development of new ones conjointly with all actors concerned, taking into account the global environmental context, have been the main developments over the last ten years.

The adoption by Member States of new laws on the biological resources management is an illustration of this, and allows for greater accountability of stakeholders in the management of their resources.

d. Regulatory framework

The regulatory framework of the present RBAP is mainly based on:

- The Convention of 22 May 1964 (Fort Lamy Convention) which is composed of eight articles that define the mandate of the commission and statute that defines its role as a coordinating body for water-related activities (surface water and aquifers) in the basin;
- The Moundou Agreement on the withdrawal of water from Logone river for agricultural purposes was signed between Cameroon and Chad in 1970;
- The Enugu Agreement on common regulations on fauna and flora was signed in 1977;
- The Memorandum of Understanding on Water Development between Cameroon and Chad was put in place on 20 August 1970;
- The adoption of the Water Charter in 2012, in N'Djamena.
- The Transboundary Strategic Framework for Disaster Risk Reduction and Adaptation to Climate Change in the Lake Chad Basin (2021);
- The Climate Change Adaptation Strategy (2019)
- The Regional Stabilisation Strategy (2018)
- The Master Plan to combat silting and water erosion (2014)
- The Strategy for the supply of wood-energy to large cities (2017)
- The Pastoral Area Management Plan (2013)
- The Lake Chad Fisheries Management Plan (2015)

4.3 Principles of implementation

The States Parties, in implementing the present RBAP, shall abide by the following fundamental principles:

- The principle of sustainable development: Basin management must allow the needs of present generations to be met without compromising those of future generations, by reconciling the economic development, environmental protection and social development requirements;
- The principle of prevention: it is necessary to analyse and evaluate the negative effects that a planned programme or project could have on the environment and human health and to design appropriate measures to eliminate, or at least mitigate, the negative effects envisaged;
- The 'user pays' principle: non-domestic uses of natural resources give rise to the payment of a charge to help finance the natural resource services;
- The Member States shall use, on their respective territories, natural resources in an equitable and reasonable manner in order to obtain optimal and sustainable benefits compatible with the legitimate interests of each Basin State and the protection of the Lake Chad.

4.4 Capacity Building Plan

The conclusions of the studies carried out during the RBAP development process have reinforced the rationale for the design and implementation of a capacity building programme. Within the biodiversity promotion, the general objective of this programme is to strengthen the capacities of actors through the promotion of regional, national and local "know-how". In terms of coordinating and harmonising the activities for the RBAP implementation, it was recommended to take measures in order to strengthen existing structures, particularly the state structures, NGOs, associations and private sector. The evaluation of capacity building needs is given in the table below:

Table 3: *LCBC Focal Point Agencies and Ministries in the Lake Chad Riparian Countries*

Areas	Weaknesses	Priority Needs	Responsible
At the Legal level	▸ Lack of complementary texts and their enforcement texts; ▸ Poor knowledge of the texts already adopted; ▸ Weak enforcement of legislative and regulatory texts. ▸ Legal texts of a sub-regulatory nature!!!	▸ Strengthening the capacities of officials in charge of the texts reform and strategies of their enforcement at the level of the States	State +LCBC
At the institutional level	▸ Weak capacity of decentralised services; ▸ Weak synergy between the institutions in charge of biodiversity issues in the basin; ▸ Weak capacity of elected officials in the implementation of biodiversity policies	▸ Strengthening the capacities of officials in the deconcentrated services for a good RBAP implementation and monitoring at national and local levels; ▸ Strengthening the synergy between the different institutions in charge of biodiversity in the basin; ▸ Strengthening the capacities of elected representatives for the implementation of activities related to biodiversity.	State +LCBC
At the Organisational level	▸ Low knowledge of local stakeholders on the land degradation process and state of biological resources; ▸ Weak synergy of action between the implementing institutions, civil society actors and private sector; ▸ Weak coordination of interventions within the Lake Chad basin.	▸ Strengthening stakeholders' knowledge on the land degradation process and state of natural resources in relation to the RBAP implementation; ▸ Strengthening the synergy of action between the implementing institutions, civil society actors and private sector; ▸ Strengthening the coordination of interventions within the Lake Chad basin.	State +LCBC
In terms of human resources	▸ Insufficient qualified human resources on sustainable management of biological resources in the Member States;	▸ Strengthening the capacities of human resources on sustainable management of biological resources in the Member States.	State +LCBC
In terms of financial resources	▸ Poor command, by the various actors, of the negotiation techniques in mobilising the resources for the RBAP	▸ Strengthening the capacity of actors to mobilise the resources for the implementation of the RBAP.	State +LCBC
In terms of training	▸ Poor knowledge on techniques for combating degradation and popularising the conservation participatory methods and sustainable utilization of the natural resources in the Protected Areas; ▸ Poor knowledge on spatial planning tools for decision-making on biological resources	▸ Training extension workers and protected area managers on the participatory methods of conservation and sustainable use of natural resources; ▸ Training actors on the utilization of spatial planning tools for decision-making on biological resources.	State +LCBC

Information, education and communication	▸ Lack of knowledge on the conservation and sustainable utilization of biological resources from the communication experts; ▸ Low involvement of local actors in the biological resources communication process; ▸ Low level of mastery of the communication tools by local actors.	▸ Building capacity of the communication experts on the conservation and sustainable utilization of biological resources; ▸ Strengthening the involvement of local actors in communication techniques on biological resources; ▸ Building capacity of local actors on the use of communication tools.	State +LCBC
Traditional leaders	▸ Poor knowledge of good governance practices in the management and utilization of biological resources;	▸ Strengthening the knowledge of traditional leaders on good governance practices in the management and utilization of biological resources.	State +LCBC
Women and and youth	▸ Low involvement of women and youth in the management and utilization of biological resources.	▸ Strengthening the involvement of women and youth in the management and utilization of biological resources	State +LCBC
Indigenous peoples and local communities	▸ Weak capacity of indigenous peoples in the management and protection of biological resources	▸ Strengthening the capacity of indigenous peoples in the management and protection of biological resources.	State +LCBC

4.5 Communication and awareness-raising strategy

The Lake Chad Basin Management Improvement Project initial phase, as well as each member states initial efforts, focused to a large extent on raising awareness among decision-makers, stakeholders, and economic importance of the basin's ecosystems, as well as the need for transboundary collaboration in efforts to protect, conserve, and sustainably manage biological resources.

In support of the ongoing actions, an effective communication and awareness-raising strategy is needed to support the RBAP implementation, which will allow for strong stakeholder mobilisation.

In order to ensure the RBAP sustainability, it is essential to identify and complement the technical capacity building requirements with a series of awareness raising and communication campaigns around the RBAP at all levels, on all aspects, and of all relevant Target Groups, in accordance with the capacity needs assessment. In this context, particular attention should be paid to the development of a communication and awareness raising strategy.

The table below outlines the key communication and awareness raising activities.

Table 6: Summary of the RBAP communication and awareness-raising activities.

PRIORITY AREA 1: ENHANCEMENT OF THE SUSTAINABLE MANAGEMENT OF BIOLOGICAL RESOURCES							
Objective	**Activity**	**Periods in year**					
		1	**2**	**3**	**4**	**5**	**Responsible**
Objective: To raise awareness among all national stakeholders, as well as international partners, on the importance of the LCB ecosystems and the RBAP objectives, strategies and plans	Assessing the communication needs at local, national and regional levels in the Member States.						LCB
	Developing and implementing a comprehensive communication, awareness raising and information dissemination programme at local, national, regional and international levels						LCB
	Elaborating and popularising the various communication and awareness-raising tools on RBAP						LCB
	Establishing partnerships with national and international media to disseminate information about the LCB and RBAP.						LCB
	Mobilising national NGOs for awareness raising and communication campaigns on biodiversity in the LCB, for a massive adhesion of stakeholders from the Member States.						LCB
	Organising periodic exchange and awareness-raising meetings with elected representatives of the Member States						LCB
	Training communicators from LCB member states on the issues of basin resource management and the RBAP						LCB
	Establishing a specialised press network for the Lake Chad Basin and encouraging the media to participate in the dissemination of information.						LCB
	Instituting documentary film festivals, in conjunction with the NGO forum, on ecology to highlight the links between human behaviour and ecosystem functions in general and LCB in particular.						LCB
	Instituting the "Lake Chad Day" and stimulating particular awareness for specific target groups.						LCB
	Creating a magazine to popularising information about the LCB and RBAP						LCB
	Organising annual meetings to monitor and evaluate communication and awareness-raising activities						LCB

4.6 RBAP monitoring and evaluation

In addition to coordinating and implementating the RBAP, the LCBC is also responsible for monitoring and periodic evaluation of the RBAP.

Indeed, monitoring and evaluation requires the definition of indicators. The definition of RBAP specific indicators makes it possible to mobilise excessive resources in terms of human and financial needs and means to collect data with the sole aim of informing the selected indicators. Consequently, it has been adopted to use, as far as possible, indicators for which there are already mechanisms for regularly collecting information to report on the progress made. This is the case of the SDG indicators.

To this end, the LCBC shall collaborate with the member states which will periodically provide information to fill in the said indicators in a disaggregated manner at the scale of the territorial units in the national portions of the basin (States for Nigeria, Regions for Cameroon and Niger, Provinces for Chad and Prefectures for CAR).

4.7 Performance indicators and means of verification

Table 7: *Focus, Targets, Indicators and Means of Verification*

PRIORITY AREA 1: ENHANCEMENT OF THE SUSTAINABLE MANAGEMENT OF BIOLOGICAL RESOURCES		
Targets	**Indicators**	**Means of Verification**
Target 1.1. Promote a (sustainable) management policy for the basin's biological resources.	▸ Number of States that have developed or have a policy framework for biodiversity restoration; ▸ Number of States that have developed or have a biodiversity mainstreaming strategy into their development policies; ▸ Number of States that have revised or developed their legal and institutional framework on natural resources.	Activity and meeting reports
Target 1.2. Encourage Member States to develop and strengthen their policies for the enhancement and sustainable use of the basin's biological resources.	▸ Number of States that have developed or revised their NBSAPs; ▸ Number of activities organised with CSOs on the enhancement of biological resources.	Activity and meeting reports
Target 1.3. Involve all stakeholders in decision-making on improving the sustainable management of the basin's biological resources.	▸ Capacity-building activity report of national stakeholders in the sustainable management of biological resources; ▸ Report/minutes on the establishment of a network of national stakeholders on the management of biological resources.	Activity and meeting reports
Target 1.4. Capitalise on relevant experience and traditional know-how for the sustainable management of the basin's biological resources.	▸ Number of States that have organised at least one activity to share experience and traditional know-how for the sustainable management of the basin's biological resources.	Activity and meeting reports
Target 1.5. Strengthen policy awareness at State level on the management of biological resources	▸ Number of policy awareness-raising activities carried out by each State on the management of biological resources. ▸ Number of States that have developed or have plans for monitoring the use of biological resources; ▸ Document to create the parliamentary of the Lake Chad Basin.	Activity and meeting reports
Target 1.6. Make more effective measures to control the basin's biological resources	▸ Number of measures taken by States to control the use of biological resources ▸ Number of States that have trained officials to monitor water resources in the Lake Chad Basin.	Activity and meeting reports
Target 1.7. Harmonise policies and strategies for the management of the basin's biological resources	▸ Number of States with well-harmonised biological resource management policies and strategies; ▸ Common strategy and policy document for the management of the basin's biological resources	Activity and meeting reports

Target 1.8. Promote the sustainable use and management of the basin's ecosystems	▸ Number of States that have rehabilitated illegally appropriated corridors and buffer zones; ▸ Number of pilot programmes for the conservation and sustainable management of wetlands developed in the LCB; ▸ Number of projects to restore degraded ecosystems and land in the LCB; ▸ Number of ecotourism pilot projects developed in the LCB.	Activity and meeting reports
Target 1.9. Capacity-building of stakeholders on the management of biological resources	▸ Number of awareness-raising and education programmes on the sustainable management of biological resources carried out; ▸ Number of capacity-building initiatives on sustainable management of biological resources available.	Activity and meeting reports
PRIORITY AREA 2: ENHANCEMENT OF KNOWLEDGE AND MONITORING OF BIODIVERSITY IN THE LCB		
Target 2.1. Enhance biodiversity knowledge in the basin	▸ Periodic assessment report on the current state of play; ▸ Reports on ecological inventories and monitoring; ▸ Existence of a database on the basin's biological resources.	Activity and meeting reports
Target 2.2. Ensure effective monitoring of biodiversity in the basin	▸ Periodic assessment report on the level of degradation of the basin's biological resources; ▸ Report on missions to monitor and collect biodiversity-related information; ▸ Number of meetings to share and disseminate the findings of biodiversity monitoring in the basin; ▸ Report on the implementation of the RBAP in each State; ▸ Number of community groups involved in LCB biodiversity monitoring; ▸ Report on meetings between stakeholders.	Activity and meeting reports
PRIORITY AREA 3: SUSTAINABLE USE AND EQUITABLE SHARING OF BENEFITS ARISING FROM THE EXPLOITATION OF BIOLOGICAL AND GENETIC RESOURCES		
Target 3.1. Strengthen the development of value chains of the basin's biological and genetic resources	▸ Ensure capacity-building of community groups on the Nagoya Protocol on access and benefit- sharing arising from the exploitation of genetic resources (ABS); ▸ Assess and enhance traditional knowledge associated with biological and genetic resources; ▸ Develop value chains based on the LCB's biological resources; ▸ Operationalise the process for obtaining NTFP exploitation permits in the LCB States.	Activity and meeting reports
Target 3.2. Strengthen the socio-economic activities of local communities, taking into account the gender aspect	▸ Set up income-generating initiatives targeting women, young people and vulnerable groups; ▸ Support small-scale producers in the areas of food production and small livestock; ▸ Create sustainable agro-pastoral innovations for indigenous and local populations; ▸ Create indigenous mechanisms for income-generating activities (IGA) in line with the protection of biological resources.	Activity and meeting reports
Target 3.3. Support and assist indigenous peoples and local communities in the creation of alternative activities to reduce pressure on the basin's biological resources	▸ Promote renewable energy activities; ▸ Promote activities in the field of aquaculture, compost and fodder crops; ▸ Encourage councils to promote waste recycling activities to help clean up the basin's ecosystems.	Activity and meeting reports
Target 3.4. Support and ensure capacity-building of farmers and associated sectors in the use of healthy production techniques in line with the implementation of the Cartagena Protocol on Biosafety.	▸ Support and encourage agro-pastoral producers to use organic inputs in their production chain; ▸ Build the capacity of stakeholders in line with the Cartagena Protocol and its implementing procedures; ▸ Assist and support Member States to develop legal instruments relating to the implementation of the Cartagena Protocol on Biosafety; ▸ Set up an aggregated biotechnology laboratory that takes account of biosecurity at basin level.	Activity and meeting reports

Target 3.5. Promote local governance of the basin's biological resources	▸ Build the capacity of local populations in the area of biological resources governance; ▸ Increase local stakeholders' knowledge of the land degradation process with a view to rational use of the basin's biological resources; ▸ Involve community leaders in decision-making on the sustainable management of the basin's biological resources; ▸ Take into account sustainable resource management issues in the process of developing or updating regional/ provincial/communal development plans.	Activity and meeting reports
Target 3.6. Increase public participation in the sustainable management of the basin's biological resources	▸ Support community-based micro-projects on the management and sustainable use of biological resources in the basin; ▸ Establish a "Friends of the Lake Chad Basin" programme with the aim of organising an annual competition on best practice in the area of sustainable management of the basin's biological resources.	Activity and meeting reports
Target 3.7. Promote the use of renewable energies within communities	▸ Building the capacity of local communities to use renewable energies; ▸ Support local communities to access renewable energy equipment in the basin.	Activity and meeting reports

4.8 Strategy and reporting tools

The strategy will be based on a simple system of collecting the desired data from different sources, organising them and presenting them in such a way that they are easily readable and interpretable.

Within the framework of the RBAP implementation, two (02) reporting possibilities are proposed:

1. First possibility: An online reporting system that allows the Member States to provide information in the framework of the RBAP implementation. To this end, the LCBC shall develop the application that will allow the States to provide the information.
2. Second possibility: A standard reporting system, which allows the Member States to report on the basis of a reporting template provided by the LCBC.

5 Resource Mobilisation Plan for the Implementation of the RBAP

Several sources of resource mobilisation can be explored collectively and independently by the Member States, LCBC and international partners:

1. Another GEF project could be formulated to implement some of the RBAP components under the direct management of the LCBC. This approach depends on the success of LCBC's vision and ensuring that it has the capacity to manage new GEF projects.
2. A donor conference can be held. As a prelude to such an event, a detailed investment plan should be developed that defines specific activities and costs to achieve the objectives identified in the RBAP. The potential partners identified are: GEF, UNDP, World Bank, African Development Bank, GIZ, European Union, etc;
3. The Member States will have to solve the problems of financing the LCBC by either increasing national contributions or through bilateral donor mechanisms.

International financial institutions should be approached for loans with the full involvement of environmental technical institutions, financial, economic and planning authorities to ensure that loan applications meet the required financial criteria and are guaranteed by the member countries. Other initiatives to mobilise international and regional resources, such as the development of the strategic partnership, could be explored.

High priority should also be given to sustained national and regional policy decisions and initiatives, including regional agreements and memoranda of understanding that would contribute to the creation of an enabling environment for the implementation of other measures, such as investment activities and awareness raising initiatives on environmental issues. Economic measures and budgets, and partnership with the private sector for environmental protection should be encouraged throughout the region.

6 Institutional Monitoring at Member State Level and Reporting

At the sub-regional level, the institutional monitoring of the RBAP implementation will be ensured by LCBC, through LCBC focal points of the Member States and the ministries in charge of natural resource management. The monitoring missions will have to report periodically to the LCBC the information resulting from their control.

The second level of monitoring is external. It is carried out by a monitoring firm identified by the LCBC. The firm works in the five LCBC Member States. This monitoring serves to verify the quality of the RBAP implementation at the regional level. The firm's reports are transmitted to the LCBC.

ANNEXES

***Table 8**: Detailed action plan with budget by activity*

PRIORITY AREA 1: ENHANCEMENT OF THE SUSTAINABLE MANAGEMENT OF BIOLOGICAL RESOURCES							
Targets	**Activities**	**A1**	**A2**	**A3**	**A4**	**A5**	**Budget (USD)**
Target 1.1. Promote a (sustainable) management policy for the basin's biological resources.	Establish a policy framework for biodiversity restoration in the basin						5,902,000
	Take into account biodiversity issues in line with the Kunming-Montreal Global Biodiversity Framework and national development						9,554,000
	Revise the legal and institutional framework and policy reforms for the management of biological resources in the Member States in line with the Kunming-Montreal Global Biodiversity Framework						7,928,000
Target 1.2. Encourage Member States to develop and strengthen their policies for the enhancement and sustainable use of the basin's biological resources.	Support Member States to set up effective and efficient monitoring and surveillance systems or programmes for the sustainable use of Lake Chad's natural resources.						12,525,000
	Support, at the level of each Member State, the establishment of a platform for civil society exchange on issues relating to the development and sustainable use of the basin's biological resources						7,930,000
Target 1.3. Involve all stakeholders in decision-making on improving the sustainable management of the basin's biological resources.	Set up an awareness-raising and capacity-building programme for elected representatives, administrative authorities, indigenous peoples and local communities, young people and women on improving the sustainable management of the basin's biological resources.						11,451,000
	Set up a network of councils to increase the involvement of local elected representatives in implementing policies geared towards improving the management of the basin's biological resources.						6,466,000
Target 1.4. Capitalise on relevant experience and traditional know-how for the sustainable management of the basin's biological resources.	Create a framework for consultation at national level with a view to sharing experience and best practice at regional level on the management of the basin's biological resources.						9,403,000
Target 1.5. Strengthen policy awareness at State level on the management of biological resources	Strengthen dialogue between Member States on issues relating to the management of biological resources in the Lake Chad Basin						5,655,000
	implement action plans to optimise efforts to monitor the use of resources at national and regional level						4,910,000
	Revitalise the parliamentary network in the Lake Chad Basin to lobby and advocate political decision-makers on an ongoing basis to ensure that biodiversity is taken into account in the allocation of budgetary resources at national level.						5,226,000
Target 1.6. Make more effective measures to control the basin's biological resources	Implement measures to control the use of Lake Chad's biological resources						5,480,000
	Strengthen the monitoring of water levels in Lake Chad and its tributaries in order to ensure ecological flows in the basin						5,469,00
Target 1.7. Harmonise policies and strategies for the management of the basin's biological resources	Carry out studies to assess the level of convergence of the biological resources management policies and strategies of the basin's member countries.						5,525,000
	Develop a common strategy and policy document for the management of the basin's biological resources						5,823,000

PRIORITY AREA 1: ENHANCEMENT OF THE SUSTAINABLE MANAGEMENT OF BIOLOGICAL RESOURCES		
Target 1.8. Promote the sustainable use and management of the basin's ecosystems	Develop and implement a programme to rehabilitate buffer zone corridors and portions of illegally appropriated land	5,065,000
	Develop pilot programmes for the conservation and sustainable management of wetlands	5,067,000
	Promote activities to restore ecosystems and degraded land in the basin	5,877,000
	Develop ecotourist pilot projects based on existing successful models in other countries	6,000,000
Target 1.9. Capacity-building of stakeholders on the management of biological resources	Develop and implement awareness-raising and education programmes on the sustainable management of the basin's biological resources and ecosystem services.	6,425,000
	Develop capacity-building initiatives on the sustainable management of the basin's biological resources and ecosystem services	4,942,000
TOTAL PRIORITY AREA 1		**142,623,000**

PRIORITY AREA 2: ENHANCEMENT OF KNOWLEDGE AND MONITORING OF BIODIVERSITY IN THE LCB		
Target 2.1. Enhance biodiversity knowledge in the basin	Make a biodiversity current state of play in the basin and a periodic and systematic assessment of the stakeholders involved.	1,859,000
	Carry out periodic inventories and ecological monitoring of the basin's biological resources;	2,675,000
	Set up a solid database system on the basin's biological resources for better planning.	4,450,000
Target 2.2. Ensure effective monitoring of biodiversity in the basin	Periodically assess the level of degradation of the basin's biological resources;	1,602,000
	Set up a system for monitoring, collecting and managing biodiversity-related information;	3,635,000
	Promote the sharing and dissemination of biodiversity monitoring findings in the basin;	2,660,000
	Promote best monitoring practices managed by beneficiary communities	2,225,000
	Assess the level of implementation of the RBAP by the Member States;	3,580,000
	Open dialogue with stakeholders on the findings of the analysis of biodiversity assessment and the implementation of the RBAP, and formulate recommendations	2,655,000
TOTAL PRIORITY AREA 1		**25,341,000**

AREA 3. SUSTAINABLE USE AND EQUITABLE SHARING OF BENEFITS ARISING FROM THE EXPLOITATION OF BIOLOGICAL AND GENETIC RESOURCES		
Target 3.1. Strengthen the development of value chains of the basin's biological and genetic resources	Ensure capacity-building of community groups on the Nagoya Protocol on access and benefit-sharing arising from the exploitation of genetic resources (ABS)	15,573,000
	Assess and enhance traditional knowledge associated with biological and genetic resources	12,083,829
	Develop value chains based on the LCB's biological resources	12,703,000
	Assist and support Member States to develop legal instruments relating to the implementation of the Nagoya Protocol	5,678,000
	Operationalise the process for obtaining NTFP exploitation permits in the LCB States	6,490,000

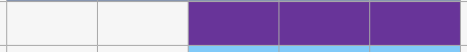
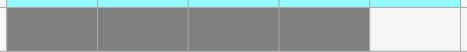
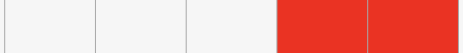
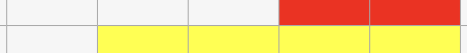
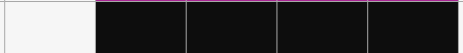
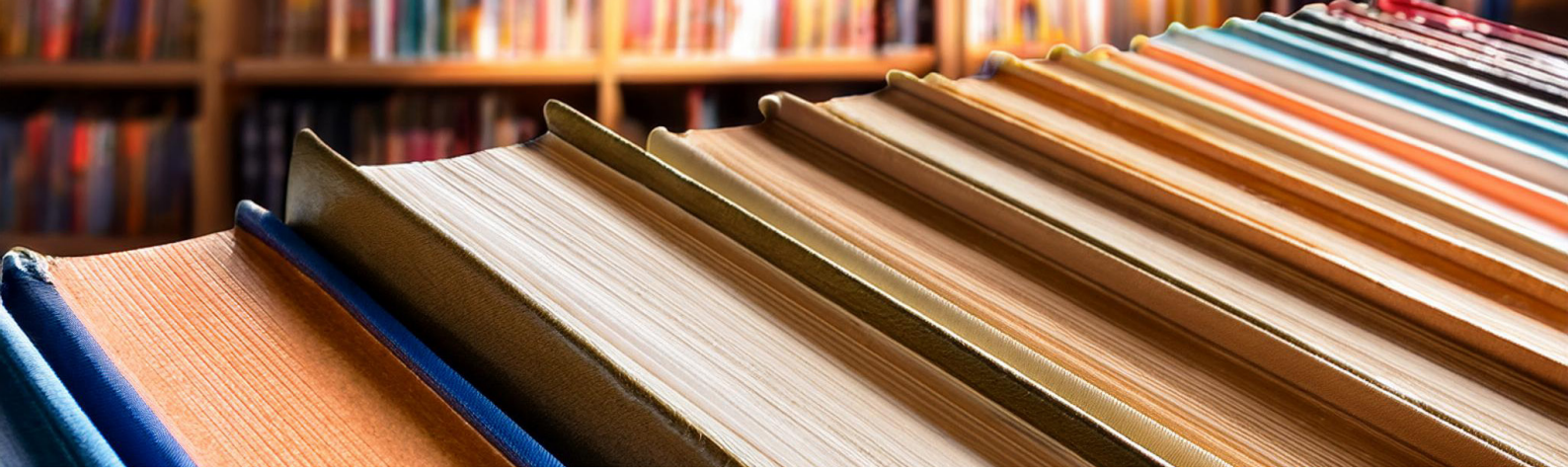
AREA 3. SUSTAINABLE USE AND EQUITABLE SHARING OF BENEFITS ARISING FROM THE EXPLOITATION OF BIOLOGICAL AND GENETIC RESOURCES			
Target 3.2. Strengthen the socio-economic activities of local communities, taking into account the gender aspect	Set up income-generating initiatives targeting women, young people and vulnerable groups;		10,638,800
	Support small-scale producers in the areas of food production and small livestock.		12,796,343
	Create sustainable agro-pastoral innovations for indigenous and local populations		12,825,219
	Create indigenous mechanisms for income-generating activities (IGA) in line with the protection of biological resources		7,107,676
Target 3.3. Support and assist indigenous peoples and local communities in the creation of alternative activities to reduce pressure on the basin's biological resources	Promote renewable energy activities		12,390,133
	Promote activities in the field of aquaculture, compost and fodder crops		27,798,000
	Encourage councils to promote waste recycling activities to help clean up the basin's ecosystems		10,782,000
Target 3.4. Support and ensure capacity-building of farmers and associated sectors in the use of healthy production techniques in line with the implementation of the Cartagena Protocol on Biosafety.	Support and encourage agro-pastoral producers to use organic inputs in their production chain		9,261,000
	Build the capacity of stakeholders in relation to the Cartagena Protocol and its implementing procedures		15,573,000
	Assist and support Member States to develop legal instruments relating to the implementation of the Cartagena Protocol on Biosafety		7,758,000
	Set up an aggregated biotechnology laboratory that takes account of biosecurity at basin level		4,652,000
Target 3.5. Promote local governance of the basin's biological resources	Build the capacity of local populations in the area of biological resources governance		2,458,000
	Increase local stakeholders' knowledge of the land degradation process with a view to rational use of the basin's biological resources		3,540,000
	Involve community leaders in decision-making on the sustainable management of the basin's biological resources		1,758,000
	Take into account sustainable resource management issues in the process of developing or updating regional/ provincial/communal development plans.		5,058,000
Target 3.6. Increase public participation in the sustainable management of the basin's biological resources	Support community-based micro-projects on the management and sustainable use of biological resources in the basin		6,758,000
	Establish a "Friends of the Lake Chad Basin" programme with the aim of organising an annual competition on best practice in the area of sustainable management of the basin's biological resources.		5,900,000
Target 3.7. Promote the use of renewable energies within communities	Building the capacity of local communities to use renewable energies		8,233,000
	Support local communities to access renewable energy equipment in the basin		6,858,000
TOTAL PRIORITY AREA 3			**224, 673,000**
GRAND TOTAL (Total Priority Area 1 + Total Priority Area 2 + Priority Total Area 3)			**392, 637,000**

Table 9: *Summary of the costs to implement the 2023-2028 RBAP*

AREAS OF INTERVENTION	AMOUNT	%
Area 1: Enhancement of the sustainable management of biological resources	10,638,800	36.3%
Area 2: Enhancement of knowledge and monitoring of biodiversity in the LCB	12,796,343	6.5%
Area 3: Sustainable use and equitable sharing of benefits arising from the exploitation of biological and genetic resources	12,825,219	57.2%
TOTAL 2023-2028	**7,107,676**	**100%**



BIBLIOGRAPHIC REFERENCES

- De Wasseige C., Devers D., De Marcken P., Eba'a Atyi R. & Mayaux P.-H., (2009) : Les forêts du bassin du Congo – Etat des forêts 2008. Office des publications de l'UE, 13 p.
- L'Union européenne, Audit Environnemental Conjoint sur l'Assèchement du Lac Tchad, 2015.
- UICN, Bassin du Lac Tchad Programme Afrique Centrale et Occidentale Leçons apprises des expériences pilotes de gestion durable des ressources naturelles, 2008.
- B. NGOUNOU NGATCHA, J. LEMOALLE, Variabilité des paysages et de la biodiversité du Petit lac Tchad, 2014.
- Ministère de l'environnement et des ressources halieutiques du Tchad, 5ème Rapport National sur la Biodiversité, 2014.
- Rapport de la consultation régionale sur le cadre mondial de la biodiversité pour l'après-2020 pour l'Afrique, Addis-Abeba, 2-5 avril 2019.
- Ministère de l'environnement et de la pêche, l'état de la biodiversité pour l'alimentation et l'agriculture en TCHAD.
- UNEF, L'intégration de la biodiversité et du développement, 2010.
- Le bassin du Tchad, une source de vie pour l'homme, la nature et la paix, 2019.
- BALARABE M.L., 2005 – Biodiversity study in the Nigerian sector of the Lake Chad basin, Final report. Lake Chad Basin GEF Project RAF/00/G31/P070252.
- CARMOUZE J-P., DURAND J-R., LÉVÊQUE C. (eds), 1983 – Lake Chad. Ecology and productivity of a shallow tropical ecosystem. Monographiae Biologica 53, La Haye, W. Junk: 575 p.
- CITES (La Convention sur le commerce international des espèces de faune et de flore sauvages menacées d'extinction), 2013 – [en ligne] Disponible sur http://www.cites.org/fra/disc/species.php (consulté le 15.10.2013).
- FAO Tchad 1998 – Élaboration de la stratégie antionale et plan d'action pour la conservation de la diversité biologique. Projet CHD/96/G31/B/IG/99, 67 p multigr.
- FOTIUS G., 1974 – Problèmes posés par l'évolution de la végétation liée à la baisse du Lac Tchad. ORSTOM, N'Djaména, 30 p. multigr.
- Reconnaissance de la végétation du lac Tchad entre janvier 1974 et juin 1976. ORSTOM, N'Djaména, 13 p.
- Programme d'action strategique (PAS) du bassin du lac tchad 2023-2037, 2022.
- Cadre mondial de la biodiversité pour l'après-2020.
- IPBES (2019) : Rapport de l'évaluation mondiale de la biodiversité et des services écosystémiques. E. S. Brondizio, J. Settele, S. Díaz, et H. T. Ngo (éditeurs). Secrétariat de l'IPBES, Bonn. 1,148 pages.
- N BILLON, B.; GUISCAFRE, J.; HERBAU, J.; OBERLIN, G. ORSTOM. Office de la Recherche Scientifique et Technique d'Outre-Mer. Paris. FR. Le Bassin du fleuve Chari. Paris (FR) : Orstom, 1974.- 481 p.
- CBLT (1987). Commission du Bassin du Lac Tchad. N'Djaména. Statut du personnel et règlement financier, N'Djaména (TD) : - 31 p.
- CBLT (1990). Commission du Bassin du Lac Tchad. N'Djaména. TD Amendement du document de base de la Commission du Bassin du Lac Tchad, N'Djaména (TD). - 2 p.
- CBLT (1977). Commission du Bassin du Lac Tchad. N'Djaména. Accord de siège entre le gouvernement de la République du Tchad et la Commission du Bassin du Lac Tchad N'Djaména (TD) : CBLT, - 8 p.

- CBLT (2011). Commission du Bassin du Lac Tchad. N'Djaména. TD. Recueil des décisions des sommets des Chefs d'état et de Gouvernement de la CBLT. Volume I: - 2010. N'Djaména (TD): Cblt. - 103 p.
- CBLT (2011). Commission du Bassin du Lac Tchad. N'Djaména. TD. Recueil des décisions des sommets des Chefs d'Etat et de Gouvernement de la CBLT. Volume I; N'Djaména (TD): Cblt, 1964 - 2011.- 103 p.
- CBLT. Commission du Bassin du Lac Tchad. N'Djaména. TD Document de base (révisé). Convention et statuts. Règlement intérieur N'Djaména (TD): Cblt, 1990.- 13 p.
- DURAND, J.R. ; LEVEQUE, C. Flore et faunes aquatiques de l'Afrique Sahelo-soudanienne. Paris (FR): Orstom, 1980-1981.- 2 tomes, 873 p.
- DONGOMBE, F.D. (1997). La problématique de l'intégration de la République Centrafricaine à la Commission du Bassin du Lac Tchad (CBLT). Université de Bangui, - 62 p.
- Ministère de la Cooperation. Paris. FR ; ORSTOM. Office de la Recherche Scientifique et Technique d'Outre-Mer. Paris. FR. Etude des potentialités du bassin conventionnel du lac Tchad : pédologie. Paris (FR): Orstom,1979.- 238 p.
- PIAS, J. Carte pédologique du Tchad à 1/1 000 000 : notice explicative. Volume 1 Centre de Fort-Lamy (TD): Orstom, 1970.- 197 p.

