

# Joint Environmental Audit on the Drying up of Lake Chad

JOINT AUDIT REPORT



Supreme State Audit  
Office of Cameroon



Court of Accounts  
Chad



Court of Accounts  
Niger



Office of the Auditor-General  
for the Federation of Nigeria



AFROSA  
Working Group on Environmental Auditing

## Imprint

### Published by the

Deutsche Gesellschaft für Internationale  
Zusammenarbeit (GIZ) GmbH

Registered offices Bonn and Eschborn, Germany

Good Financial Governance in Africa /  
Pan-African Financial Governance Programme  
GIZ Office Pretoria  
P. O. Box 13732, Hatfield, 0028  
Hatfield Gardens, Block C, Ground,  
333 Grosvenor Street, Pretoria  
South Africa  
[www.giz.de/en/worldwide/17668.html](http://www.giz.de/en/worldwide/17668.html)

### On behalf of

The European Union (EU) and the  
German Federal Ministry for Economic  
Cooperation and Development (BMZ)



Implemented by:



### Compiled by

Supreme State Audit Office of Cameroon  
Court of Accounts Chad  
Court of Accounts Niger  
Office of the Auditor- General for the Federation of Nigeria

### Acknowledgements

African Organization of Supreme Audit Institutions (AFROSAI)  
AFROSAI Working Group on Environmental Auditing (AFROSAI-WGEA)  
Office of the Auditor-General of Kenya  
Court of Accounts of the Kingdom of Morocco  
Court of Accounts of the Kingdom of Belgium  
Office of the Controller and Auditor-General of Tanzania  
National Audit Office of Estonia  
Canadian Comprehensive Auditing Foundation (CCAF-FCVI)  
Good Financial Governance Programme in Africa, German Cooperation – GIZ

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Published in South Africa - May 2015



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## Joint Audit Report

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## LIST OF ABBREVIATIONS

<b>ACEEN</b>	(Association Camerounaise pour l'Education Environnementale): Cameroon Association for Environmental Education
<b>AfDB</b>	African Development Bank
<b>BADEA</b>	(Banque Arabe pour le Développement Economique en Afrique): Arab Bank for Economic Development in Africa
<b>BGR</b>	Federal Institute for Geosciences and Natural Resources
<b>BMZ</b>	Germany's Federal Ministry for Economic Cooperation and Development
<b>CAADP</b>	Comprehensive Africa Agriculture Development Programme
<b>CCAF-FCVI</b>	Canadian Comprehensive Auditing Foundation
<b>CCD</b>	Convention to Combat Desertification
<b>CICOS</b>	(Commission Internationale du bassin Congo-Oubangui-Sangha): The International Commission of the Congo-Ubangi-Sangha Basin
<b>CNEA</b>	(Commission Nationale de l'Eau et de l'Assainissement): National Water and Sanitation Commission
<b>CNGE</b>	(Comité National de Gestion de l'Eau): National Water Management Committee
<b>CRU</b>	Cambridge Research Unit
<b>DREM</b>	(Direction des Ressources en Eau et de la Météorologie): Data from the Directorate of Water Resources and Meteorology of Chad
<b>ECOWAS</b>	Economic Community of West African States
<b>EEC</b>	European Economic Community
<b>FMWR</b>	Federal Ministry of Water Resources
<b>GCPH</b>	General Census of Population and Housing
<b>GEF</b>	Global Environmental Facility
<b>GIWA</b>	Global International Waters Assessment
<b>GIZ</b>	German agency for international cooperation for development
<b>HCNE</b>	(Haut Comité National chargé de l'Environnement): National High Committee for the Environment
<b>HJKYB-TF</b>	The Hadejia-Jama'are-Komadugu-Yobe Basin Trust Fund
<b>IDB</b>	Islamic Development Bank
<b>INBO</b>	International Network of Basin Organizations
<b>INS</b>	(Institut National de la Statistique): National Institute of Statistics
<b>INTOSAI</b>	International Organization of Supreme Audit Institutions
<b>IRD</b>	(Institut de Recherche pour le Développement): French Research Institute for Development
<b>ITC</b>	Inter-ministerial Technical Committee of the Lake Chad Basin
<b>IWRM</b>	Integrated Water Resources Management
<b>LCBC</b>	Lake Chad Basin Commission
<b>LGAs</b>	Local Government Authorities
<b>MDAs</b>	Ministries, Departments and Agencies
<b>MINEE</b>	(Ministère de l'Energie et de l'Eau): Ministry of Energy and Water Resources

<b>MINEPAT</b>	(Ministère de l'Economie, du Plan et de l'Aménagement du Territoire): Ministry of Economy, Planning and Regional Development (Cameroon)
<b>MINEPDED</b>	(Ministère de l'Environnement, de la Protection de la Nature et du Développement Durable): Ministry of the Environment, Protection of Nature and Sustainable Development
<b>MINRESI</b>	(Ministère de la Recherche Scientifique et de l'Innovation): Ministry of Scientific Research and Innovation
<b>NAPs</b>	National Action Plans
<b>NAP-IWRM</b>	National Action Plan for Integrated Water Resources Management
<b>NASA</b>	National Aeronautics and Space Administration
<b>NEPAD</b>	New Partnership for Africa's Development
<b>NEPSD</b>	National Environmental Plan for Sustainable Development
<b>NWC</b>	National Water Committee
<b>OHADA</b>	(Organisation pour l'Harmonisation en Afrique du Droit des Affaires): Organization for the Harmonization of Business Law in Africa
<b>PRODEBALT</b>	(Programme de Développement du Bassin du Lac Tchad): Sustainable Development Programme of the Lake Chad Basin
<b>RAMSAR</b>	Convention on Wetlands
<b>RAP-IWRM/WA</b>	Regional Action Programme of Integrated Water Resources Management of West Africa
<b>RBDA</b>	River Basin Development Authorities
<b>RBM</b>	Results-Based Management
<b>RPCLCB</b>	Regional Parliamentary Committee of the Lake Chad Basin
<b>RSDS</b>	Regional Spatial Development Scheme
<b>SAIs</b>	Supreme Audit Institutions
<b>SAP</b>	Strategic Action Programme
<b>SEEN</b>	(Société d'Exploitation des Eaux du Niger): Company for Water Utilities in Niger
<b>SEMRY</b>	(Société d'Expansion et de Modernisation de la Riziculture de Yagoua): Yagoua Association for the Expansion and Modernisation of Rice Culture
<b>SMART</b>	Specific, Measurable, Attainable, Realistic Time limit
<b>SMWR</b>	State Ministry of Water Resources
<b>SODELAC</b>	(Société de Développement du Lac): Lake Development Company
<b>SPEN</b>	(Société de Patrimoine des Eaux du Niger): Niger Water Assets Holding Company
<b>UNDP</b>	United Nations Development Programme
<b>UPDS</b>	Urban Planning and Development Scheme
<b>USAID</b>	United States Agency for International Development
<b>WB</b>	World Bank
<b>WHO</b>	World Health Organization
<b>WMO</b>	World Meteorological Organization





# CHAPTER 1 INTRODUCTION

# CHAPTER 1

## INTRODUCTION

### 1. History and present situation of Lake Chad

#### 1.1 General introduction to Lake Chad

Lake Chad, once known as “*the Pale-Chadian Sea*”, was the fourth biggest lake in Africa in 1963 with a surface area of 25 000 km<sup>2</sup> (MBODOU, 2006). Situated in the Sahel region of Africa and bordered by four countries – Chad to the east (50%), Niger to the northwest (17%), Nigeria to the west (25%) and Cameroon to the south (8%), this lake was one of the largest bodies of fresh water on the African continent.

The geographical or drainage basin with its surface area of 2,381,636 km<sup>2</sup>, making out 8% of the African continent's surface, is shared by Algeria, Libya, Cameroon, Nigeria, Niger, the Central African Republic (CAR), Sudan, and Chad.

The conventional basin or active basin, which falls under the Lake Chad Basin Commission (LCBC)'s jurisdiction, takes up one sixth of the geographical basin and is a water source shared by Cameroon, Nigeria, Niger, Chad, the Central African Republic and Libya. With the accession of the latter two countries in 1994 and 2000 respectively, the conventional basin today covers an area of almost 984,455 km<sup>2</sup>, distributed as follows according to 1994 NASA data:

- Cameroon: 56,800 km<sup>2</sup> – approximately 12% of the national territory and 6% of the basin as a whole;
- Niger: 162,375 km<sup>2</sup> – approximately 13% of the national territory and 16% of the basin as a whole;
- Nigeria: 205,500 km<sup>2</sup> – approximately 22% of the national territory and 21% of the basin as a whole;
- CAR: 197,800 km<sup>2</sup> – approximately 32% of the national territory and 20% of the basin as a whole;
- Chad: 361,980 km<sup>2</sup> – approximately 28% of the national territory and 37% of the basin as a whole.

Lake Chad and its ecosystems are of immense strategic relevance for the entire region. It provides in effect water and a livelihood to more than 30 million people, of which the majority earn their living through agriculture, animal husbandry and fishing (AHMAD SALKIDA, Africa's vanishing Lake Chad – Action needed to counter an “ecological catastrophe” in Africa Renewal, April 2012, page 24).

Lake Chad is formed by two basins – south and north – separated by shoals called the “Great Barrier”. The southern basin is fed directly by the Chari River, a main tributary of the lake. The remainder of the water supply comes from direct rainfall on the lake and small tributaries, including the Komadugu Yobe River to the northwest and the El Beïd to the south (Collegial expertise, IRD, 2014).



Figure 1: Lake Chad.

Source: Collegial expertise, IRD, 2014

## 1.2. Lake Chad's Evolution

Throughout the evolution of Lake Chad, it has always found itself in one of four states: Large Lake Chad, Normal Lake Chad, Small Lake Chad and Dry Small Lake Chad (Collegial expertise, IRD, 2014).

Large Lake Chad is characterized by a large area of open water that spans an area of 24,000 km<sup>2</sup>, bordered by a limited dune archipelago. The Large Lake Chad stage has only occurred for short periods during the 20th century, with the most recent occurrence during the wet years of the mid-1950s.

Normal Lake Chad presents a single body of water during the whole year, covering between 15,000 and 19,000 km<sup>2</sup> at an altitude of 280 to 282 m, with two large basins – south and north – separated by a narrowing, and the shoals of the Great Barrier that stay submerged.

Small Lake Chad is generally more of a marshland than a lake in the traditional sense. It is made up of several bodies of water separated for at least a part of the year by shoals. In the southern basin, around 1,700 km<sup>2</sup> of open water is located in front of the Chari Delta, with water surface altitude between 279 and 281 m. The northern basin is separated from the southern basin by the more-or-less permanently exposed area of the Great Barrier, which controls the hydrology of this part of the lake.

Dry Small Lake Chad is a new state that has recently been defined to refer to a Small Lake Chad where the northern basin is not supplied with water by the southern basin, which stays dry throughout the year.

Between 1957 and 2008, the lake has been in Small or dry Small Lake Chad state for two thirds of the time and in Normal or Large Lake Chad state for one third of the time.

Currently, the northern basin is nearly dry, while the southern basin retains a little bit of water throughout the year, depending mainly on the annual inflow from the Chari River as presented by the table below:

**Table 1: Characteristics of the different states of Lake Chad**

Lake Chad	Dry-Small	Small	Normal	Large
<b>Inflow from Chari-Logone rivers (km<sup>3</sup>/year)</b>	<15	15-34	35-43	>43
<b>Water level (m)</b>	Dry northern basin	Different levels	280-282	>282.3
<b>Amount of water bodies</b>	Several	Several	One	One
<b>Total area of the lake (km<sup>2</sup>)</b>	2 000 - 6 000	2 000 - 14 000	15 000 - 19 000	20 000 - 25 000
<b>Flooded surface of the northern basin (km<sup>2</sup>)</b>	0	0 - 8 000	9 000	10 000
<b>Dominant landscape</b>	Marshland and savannah	Marshland	Dune archipelago	Open water
<b>Aquatic vegetation</b>	++	+++	++	+

Source: (Collegial expertise, IRD, 2014).

Natural causes like drought, the advancing desert and climate changes, as well as increasing diversion and withdrawal of water and anthropogenic causes like uncontrolled and near-permanent clearing of green spaces for firewood, and various other human actions, have significantly contributed to reducing the surface area of Lake Chad to barely 2,500 km<sup>2</sup> – a reduction of approximately 90% compared to



the recorded level in the mid-1960s. Its average depth fluctuates between 1,5m and 5m, for a relatively small volume of water (20 to 100 billion m<sup>3</sup>). Increased periods of drought have resulted in an even more significant decline in water. The average surface area of Lake Chad was thus only about 1,350 km<sup>2</sup> in 2001 – a reduction of 95% compared to the levels of the mid-1960, as presented below (ODADA and others, Lake Chad – Experience and lessons learned brief, February 2006).

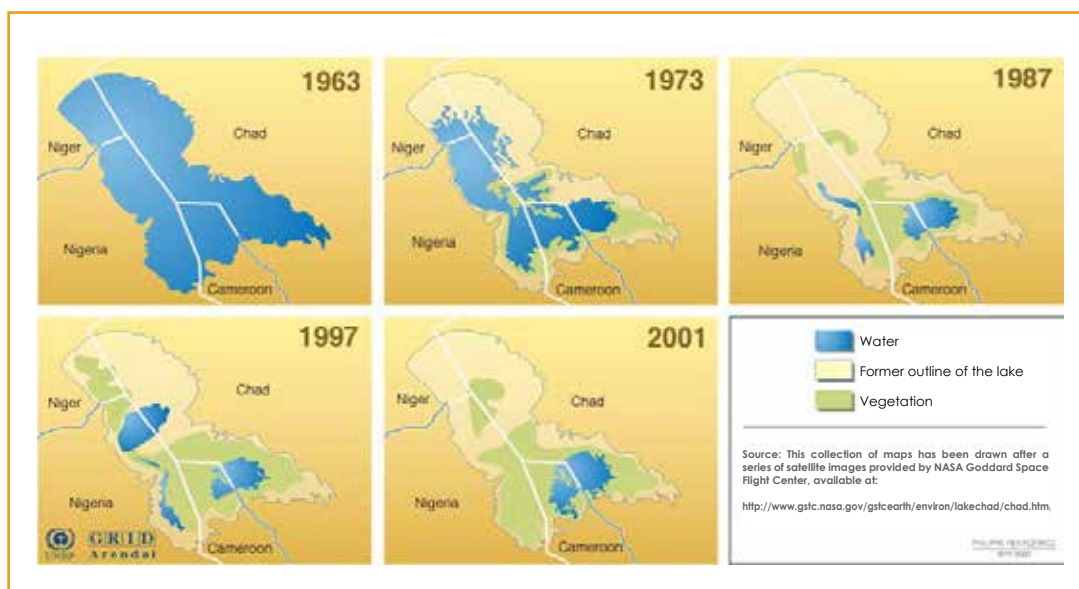


Figure 2: Lake Chad's Evolution

Source: NASA Goddard Space Flight Center, 2001.

Lake Chad's main water inflow depends mainly on the Chari/Logone hydrosystem (85% of the total), which depends in turn on rainfall over the basin. The other tributaries (Komadugu Yobe, El Beïd, Yedseram) supplies less than 10% of the inflow, with rainfall on the lake constituting the remainder. It has been observed that, when rainfall over the Chari basin varies by 10%, the annual flow from this river varies by 30%, which induces a proportionate change in the surface area of the Lake. The Lake therefore acts as an amplifier of the variations in the rainfall on its basin (**Table 2**) (Collegial expertise, IRD 2014).

**Table 2: Average rainfall over the basin and flow of the Chari River since 1950.**

Period	Basin rainfall (mm)	Flow	
		Km <sup>3</sup> /year	m <sup>3</sup> /year
1950-59	1114	42,1	1334
1960-69	1059	40,3	1278
1970-79	929	27,3	866
1980-89	877	17,7	561
1990-99	974	21,7	688
2000-09		21,2	672

Source: Data from the Directorate of Water Resources and Meteorology of Chad (DREM), Chad and Cambridge Research Unit (CRU), United Kingdom.

### 1.3. The shrinking of Lake Chad and its effects

The considerable shrinking of Lake Chad (from 90 to 95% since 1970?) has dramatically changed its appearance. This situation, which affects the riparian countries in various ways, presents itself as follows:

- Niger now only has access to the northern basin, which at the moment is mostly nothing more than an enormous wetland, as water from the Chari-Logone River only reaches the northern basin in years of heavy monsoon rains;
- Nigeria has seen the lake's water recede completely beyond its borders. Nothing but small water points remain today;
- Only Cameroon and Chad still have water within their respective national sections of Lake Chad.

The lake is now covered with reeds, and small islands take up a considerable part of the surface area. Altogether the islands cover 23% of the surface, reed beds 39% and open water only 38% (ODADA and others, Lake Chad – Experience and lessons learned brief, February 2006.)

Lake Chad's current state of drying up influences the economy, the environment and the populations living in the Lake Chad basin area alike.

#### 1.3.1. Economical impacts of the drying up of Lake Chad

The conventional basin of Lake Chad is certainly an area of trade and economic development. Agriculture, animal husbandry and fishing are considered to be the predominant activities here.

##### 1.3.1.1. Impact on agricultural activities

Agriculture is the main activity in the Lake Chad basin, practised by more than half of the population residing here. The area of cultivated land in the basin is estimated at over **2,800,000 hectares**, distributed as follows:

- Niger: **2.010.000 hectares**;
- Nigeria: **560.000 hectares**;
- Chad: **125.000 hectares**;
- Cameroon: **44.500 hectares**.

Currently, with much of the lake's water dried up, the cultivable land (polders) has expanded and is today estimated at over **7,000,000 hectares** by the LCBC.

In the Lake Chad region, three types of agriculture can be found: rain-fed agriculture, flood recession agriculture, and irrigated agriculture. However, in the last twenty years or so, interest in irrigated agriculture has grown in agriculture policies and practices of the Member States of the LCBC.

Despite the considerable lack of financial resources of the LCBC's Member States, Nigeria succeeded in constructing a network of dams for irrigation with water from the lake or its tributaries. For this purpose, several dams (around twenty) have been built on the Komadugu-Yobe River, a main tributary of Lake Chad, and only 1% of the original amount of water from the river now reaches Lake Chad. The rest is absorbed by various water catchment facilities, including illegal channels dug out by farmers along the river to divert water to their fields (WORLD BANK, Reversal of Land and Water Degradation Trends in the Lake Chad Basin, prepared by the Africa Safeguards Policy Enhancement Team, 2002, p.2.).

SODELAC (the Lake Development Company) was founded in 1970 in Chad and is responsible for the socio-economic development of the Chadian section of Lake Chad. In 1999, Chad could carry out Project Mamdi with the help of donor support (AfDB, BADEA), to develop 1,200 hectares of polders in the Mamdi department, about 10 km from Bol, the main town of the Lac-region.

In addition to Chad and Nigeria, Cameroon has attempted a similar experiment under the SEMRY programme (Yagoua Association for the Expansion and Modernisation of Rice Culture), in the Far North-region of Cameroon. This agricultural project has also led to the construction of the Maga Dam in 1979 to support this rice-producing public enterprise (Annex No 5: Status of the network of water impoundments and dams in Lake Chad and its tributaries).

In the Sahel region, where irrigation seems to be the only means by which inhabitants can practice intensive agriculture and settle, farmers are facing serious problems caused by the lowering levels of Lake Chad.

In addition to the cultivation of cotton and rice as cash crops in Chad and Cameroon, and of peanuts in Niger and Nigeria, the bulk of the agriculture in this region is for the subsistence of the inhabitants. This includes the cultivation of maize, wheat, millet, rice, potato, melon, tomato, capsicum, garlic, and onion.




### **1.3.1.2. Impact on animal husbandry activities**

In the Diffa-region of the Niger section of Lake Chad, animal husbandry plays the biggest role in the region's economy with an estimated value of more than 286 billion CFA francs, according to a study conducted by the Regional Directorate of Animal Husbandry in Diffa. It includes an arid and semi-arid area with a Sahelian-type climate that is suited to livestock farming.

However, it should be noted that there has been a remarkable rise in livestock farming in other regions of the conventional basin as well, through the control of certain diseases and a large proportion of fisherman converting to livestock activity. The population mainly rears cattle, camels, horses, sheep, and donkeys.

The livestock in the basin as a whole presents itself as follows:

**Table 3: Estimate of livestock in the Lake Chad Basin.**

Species	Number
Cattle	 4.571.453
Goats	 7.401.392
Camels	 153.700

Source: (MBODOU, 2006)

Besides the Fulani herders who are always sedentary, the Kanembous, the Buduma and the Shuwa Arabs have also become mobile because of vegetation disturbance, mainly due to global warming. This nomadism never existed in the Lake Chad region before, and it forces the herders to leave their land between June and October in search of pastures to the north.

This temporary displacement of the cattle allows the grasses to grow back in order to feed the herds during the dry season, since the herders return to their own land in early October. During this period, overgrazing becomes a problem in the different areas due to the scarcity of grasses.

Today the Kuri cattle breed, an endemic species of the Lake Chad basin region, is threatened with extinction, and it would be disastrous for the ecosystem as well as for all the populations of the region if it should disappear.

### 1.3.1.3. Impact on fishing activities

Fishing used to be one of the most attractive activities, but is facing enormous challenges today. Before the ecological disturbances of recent years, the Cameroon and Chad sections of Lake Chad produced between 60,000 and 80,000 tonnes of fresh fish per year.

However, since the continuous drying up of Lake Chad, fishery activities have been considerably reduced and a large proportion of fisherman has turned to agriculture or livestock activities.

In addition to natural constraints (climate change, scarce rainfall, etc.), demographic population growth also plays a role. Overfishing, diverting water with fishing channels, and the use of illegal fishing methods (like nets with very small mesh), have drastically reduced the fish population which is estimated at more than 120 species.

In view of the traditional methods used, fishing is mainly a source of livelihood for the inhabitants. Its commercial aspect is limited to only a few traders who export fish either fresh, mainly to the N'Djamena market, or smoked, to Maiduguri in Nigeria.

Since the complete drying up of the northern basin and, more specifically, of the Niger section, fishing is no longer practised in all four of the riparian states as before. It is now mainly in the southern basin that fishing is still possible at all times.

### 1.3.2. Environmental impacts of the shrinking of Lake Chad

The present state of Lake Chad has had a profound effect on the local biodiversity through the loss of habitats. The main changes observed concern the biodiversity of fish and plant communities.

Aquatic life has undergone major changes. Open-water animal species like the hippopotamus and crocodile have almost completely disappeared from Lake Chad, while species adapted to the living conditions in marshlands now exists in places where they were unknown before.

Species that were common before now suffer high mortality rates due to drought, overfishing, diversion or water supply impoundments, and increased catches of young fish by using small-mesh nets.










Invasive species, in particular cattail and water Hyacinth, cover about half of the present surface area of Lake Chad because of their rapid growth, and thus reduces the aquatic life deprived of light.



Above the surface of the lake, the lowering water level and changes in vegetation have had a detrimental effect on birds and mammals. Certain bird species are threatened by the significant shrinking of their nesting habitats and wintering areas.

The loss of habitats also contributes to the decline in large mammal species (elephants, hippopotamuses, gazelles, antelopes, hyenas, cheetahs, caracals, etc.) in the basin.

These changes in animal and plant species in the Lake Chad basin area is presented in the table below:

**Tableau 4: Species endangered by the drying up of Lake Chad**

Status of species	Animal species	
<b>Endangered, significantly reduced numbers</b>		Kuri cattle
		African elephant
		Hippopotamus
		Red-fronted gazelle
		Dorcas gazelle
		Red monkey
		Striped hyena
		Crocodile
		Crowned crane

Currently populating Lake Chad		Characin
		Nile Perch
Extinct (in Niger only)		Sitatunga

Sources: Global International Waters Assessment Lake Chad Basin, GIWA Regional assessment 43, University of Kalmar on behalf of United Nations Environment Programme.

### 1.3.3. Impact of the shrinking of Lake Chad in relation to the population

The population of the conventional basin is estimated at thirty million inhabitants (collegial expertise, IRD, 2014) distributed as follows:

**Cameroon:** 3,600,000 inhabitants, General Census of Population and Housing (RGPH, 2008)

**Niger:** 1,364,807 inhabitants, National Institute of Statistics (INS, 2012)

**Nigeria:** 15,900,000 inhabitants

**Chad:** 11,175,915 inhabitants, RGPH, 2009

**CAR:** 606,339 inhabitants in the Bossongoa prefecture

**Population growth rate:** 2.5% to 3% (World Bank, 2002)

**Population density of Lake Chad:** 50 inhabitants per km<sup>2</sup> (Collegial expertise, IRD, 2014).

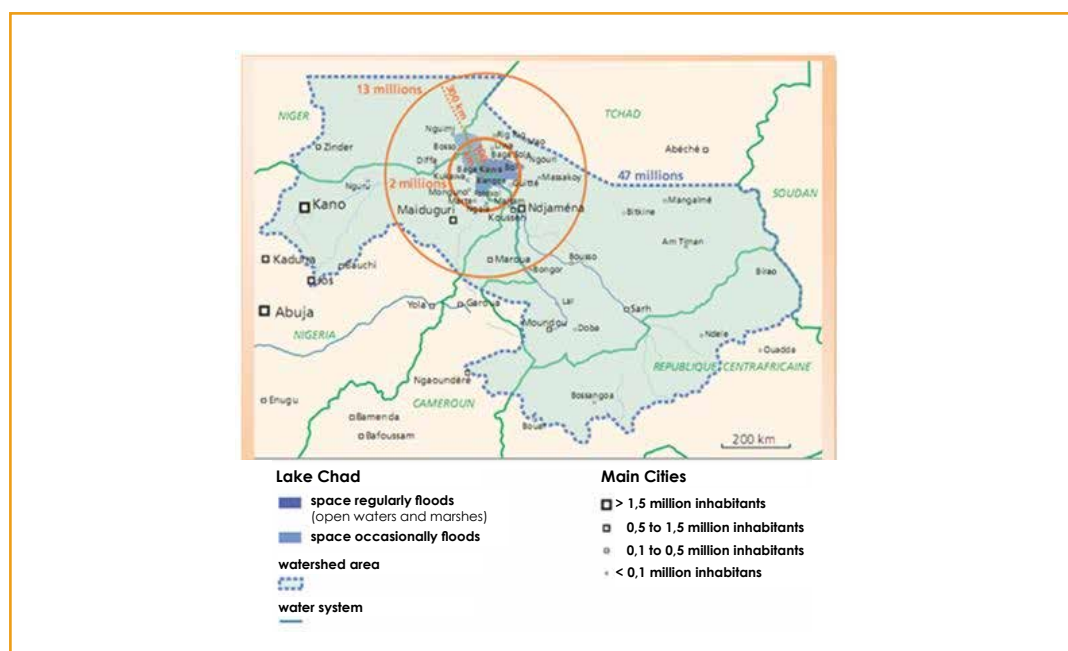


Figure 3: Population of the lake and its regional surroundings.

Source: O. Ninot, Collegial Expertise, IRD, 2014.

Based on the administrative boundaries that structure the censuses, the population living in Lake Chad's conventional basin in 2013 was around 30 million inhabitants (collegial expertise, IRD, 2014).

In effect, the 20th century is characterised by a progressive colonization movement, which accelerated after the transition to Small Lake Chad in 1973. This migration towards the lake inevitably led to the maximizing of economic opportunities connected to the exploitation of natural resources. It started with the migration of fisherman to Nigeria from the 1930s, then to Cameroon and Chad in the 1950s. These influxes of people increased during the drought of 1970-1980. Then it was mainly the migration of farmers, but also fisherman and herders, which resulted in the settlement of a very mixed, cosmopolitan population, especially on the southern shores that attracted the most migrants.

This population consists of peoples of the former settlement that moved closer to the lake (Kanuri, Shuwa Arabs, Kanembu), mixed with migrants from areas further away (Hausa, Fulani, and Sara from the south of Chad, followed by mountain people from Guéra in the 1980s, peoples from Ouaddaï in the 2000s and West-African fisherman from various origins).

The location of inhabited sites, permanent villages and temporary camps of fisherman or herders, follows the changes in the level of the lake. Between 1965 and 1985 when the lake receded, the former seasonal camps became permanent villages and new temporary sites were created within the lake (collegial expertise, IRD, 2014).

Currently, based on the Falkenmark water stress index, the Lake Chad basin region falls under the category of "absolute scarcity" – the lowest rating, given that the populations of the Lake Chad basin have access to less than 550 m<sup>3</sup> of water per year.

In view of the ever diminishing water resources of Lake Chad, the following should be done:

- meeting the needs in terms of food, animal husbandry and agriculture of the populations and identifying areas for immigrants in order to reduce conflict surrounding the competition for resources;
- reducing insecurity caused by cultural diversity in the area, the growing difficulties in practising various activities, the lack of economic opportunity, unemployment of an expanding population without prospects, and the increased displacement of populations to Lake Chad as a result of national or international conflicts.

#### 1.3.4. Scientific consensus on the problems and solutions?

In spite of scientific controversy on the cycle and effects of the drying up of this expanse of fresh water, a consensus does exist on what the main problems in the area of the Lake Chad basin are. They include the following:



- Climate changes;
- Increase in pressure from human activities: dams, irrigation, poor fishing practices, disordered cutting of wood, etc.;
- Heavy demographic pressure – the population has quadrupled in 50 years, resulting in conflicts between herders and farmers as well as increased food insecurity;
- Management of the remaining water resources that is uncontrolled, unharmonized, non-unified, and not shared between the states of the LCBC.

The main solution identified is the need for cooperation between the riparian countries of the Lake Chad basin with the aim of:

- Designing and carrying out joint climate change adaptation programmes;
- Unifying and/or harmonizing legislation, regulations, practices and sanctions in all the Member States of the LCBC;
- Harmonizing the policies and strategies of Integrated Water Resources Management (IWRM) for the Lake Chad basin;
- Restoring degraded areas, fighting against the degradation of ecosystems in the Lake Chad basin, and promoting alternative energy sources (biogas and improved stoves) among the populations;
- Continuously raising awareness among the people about the effects of intense deforestation and the fight against poverty.

Source: (CIMA INTERNATIONAL, 2011) (Collegial expertise, IRD, 2014).

Furthermore, the idea of a water transfer from the Ubangi River to Lake Chad was born in a context of advanced drying up (Tilho, 1928) of Lake Chad. The Heads of State of the LCBC embraced this idea in the 1990s, showing interest in the project, and commissioned a feasibility study out of their own funds (2009-2011). This study concluded that an inflow through transfer of 3.4 km<sup>3</sup> from the Ubangi River to the lake would be technically feasible and justified, with an alternative option that involves the recalibration of the Chari river over about 1,350 km.

This recommended solution entails a gravity transfer from the Kotto River, developing a dam some distance away at Palambo for hydro-electric generation (20 MW), and regulating navigation on the Ubangi River. In combination with the improved average flow of the Chari River and the prevention of sediment filling up Lake Chad, the transfer should allow a rise of 0.5 m to 1 m in the level of the lake. This will not significantly improve the Chari's flow rate in the downstream section, but would probably avoid Dry Small Lake Chad conditions – meaning no water supply to the northern basin – in certain climatic and water-use scenarios. The initial capital costs are estimated at around 7 billion dollars (CIMA INTERNATIONAL, 2011) (Collegial expertise, IRD, 2014).

However, there is another school of thought among some scientists, holding that this type of water transfer is very rarely found in the world and does not exist anywhere

over such a long distance, or in a similar geomorphologic context generating such quantities of detrital elements.

Given that the banks of the *Chari* and *Logone* rivers are fragile and not very high, an increase in their water volume and flow might lead to severe floods in the riverside regions and cause social and economic damage in Cameroon as well as Chad.

Furthermore, catchment of some the *Ubangi's* waters for transfer to *Lake Chad* might deprive the hydrographical basin of the *Congo* of a good deal of its potential, and will not necessarily remedy the underlying causes of drying up, which are linked to human activity or the bad management of water resources in the Lake Chad basin in the four riparian countries. This is one of the reservations expressed by CICOS (*the International Commission of the Congo-Ubangi-Sangha Basin*) out of its reluctance to give consent to water catchment from the *Ubangi* (*Dr NJIKE P.R., 2014*) (**Annex 4: Scientific reflection on the issue of transferring water from the *Ubangi* River to Lake Chad**).

## 2. Roles of the Supreme Audit Institutions (SAIs)

The four (04) Supreme Audit Institutions (SAIs) of the riparian countries of Lake Chad have decided to carry out a coordinated environmental audit of Lake Chad. They are: the Supreme State Audit services of Cameroon, the Court of Auditors of Chad, the Court of Auditors of Niger, and the Office of the Auditor General for Federal Republic of Nigeria.

According to INTOSAI standards, environmental performance audits (**Annex 7**) aim to evaluate and report on the means used by the entities for efficiently managing their resources in the interest of economy and sustainable development, as well as the effectiveness of implemented programmes.

For this purpose, the objective of the coordinated environmental audit of Lake Chad is to:

- Verify how well riparian Countries comply with standards and good practices targeting the better management and use of Lake Chad basin water and resources;
- Evaluate, at the level of riparian Countries, the process of control, monitoring and enforcement practices and systems to achieve sustainable use of water resources in the LCB., and
- Verify whether LCBC fulfils its roles and responsibilities especially in terms of assessing and monitoring States' performances in the implementation of measures designed to control the Lake Chad basin water resources.

According to the Memorandum of Understanding signed by the four participating SAIs (**Annex 1**), the scope of the audit covers: water quantity, the use of water resources (withdrawal/pumping, distribution, irrigation practices, dams), population settlements and human activities in the Lake Chad basin. This includes verifying the implementation of control, monitoring and enforcement practices and systems to ensure the proper use and sustainable management of water in the Lake Chad basin.

Issues regarding water quality and pollution are not within the scope of this audit.

### 3. Overview of the roles and responsibilities in water resources management in the Lake Chad basin

Water resources management in Lake Chad primarily involves the governments of the riparian states of the Lake, who created the LCBC – the coordinating body for their actions in the basin. In addition to these two contributors, various International Organizations are interested in the issues relating to this expanse of fresh water.

#### 3.1. The Lake Chad Basin Commission

The Lake Chad Basin Commission (LCBC) is a legal institutional body for the conventional Lake Chad basin established on May 22, 1964 by the Fort Lamy Convention (current N'Djamena), that was signed by the Heads of State of Cameroon, Niger, Nigeria and Chad, the LCBC was born out of the concern of these States to resolve common problems.

From its inception, the LCBC was intended to be a body with mandates for the coordination and promotion of sub-regional cooperation with a view to controlling and developing water resources. It is an international organization with regulatory regional structures, as defined in its convention and statutes. Pursuant to its current legal and organic framework, LCBC has a **MANDATE** to:

- Sustainable and equitable management of the Lake Chad waters and other transboundary water resources of the Lake Chad basin;
- Preservation and protection of ecosystems of the catchment area;
- Promotion of integration and preservation of peace and security in the conventional basin.

To discharge its mandate, LCBC has to carry out the following **MISSIONS**:

- To collect, evaluate, and disseminate information on projects prepared by member States and recommend plans for common projects and joint research programmes in the basin;
- To keep close contact among the High Contracting Parties with a view to ensuring the most efficient use of the waters in the basin;
- To monitor the execution of studies and works in the basin and to keep member States informed;
- To draw up common rules regarding navigation and transport;
- To draw up staff regulations and to ensure their application;
- To examine complaints and to promote the settlement of disputes.

The LCBC is composed of three main organs: the Summit of Heads of State and Government; the Council of Ministers and the Executive Secretariat, which are assisted by subsidiary organs forming the additional institutional mechanisms to this body.

### 3.1.1. Main bodies of the LCBC

**The Summit of Heads of State and Government**, political organ tasked with designing strategic policies and guidelines, which meets once every year in an ordinary conference

**The Council of Ministers**, technical committee bringing together each member State's Government department that handles issues related to Lake Chad Basin. It mostly harmonizes water resource management, prepares technical documents to be submitted to the Summit of Heads of State and Government and monitors the ensuing decisions and resolutions, facilitating their implementation by LCBC Executive Secretariat and in institutions of member States. It meets once every year in an ordinary session.

**Executive Secretariat** is the executive organ of LCBC. Its main duties are to:

- Ensure that principles defined in the Convention are applied;
- Assemble, consider and disseminate data related to projects prepared by member States and recommend an action plan for the development of the basin;
- Maintain contact between member States to facilitate the seamless and efficient exploitation of basin waters;
- Conduct baseline studies and works in the basin and inform member States of progress;
- Promote regional cooperation and the settlement of disputes;
- Plan, coordinate and carry out regional projects.

The Summit of Heads of State and Government and the Council of Ministers are the two decision-making organs of LCBC.

### 3.1.2. The subsidiary bodies

These have recently been created in the LCBC to support the main bodies in the fulfilment of their mission. They are: the Technical Committee, the Inter-ministerial Technical Committee and the Regional Parliamentary Committee.

**The Technical Committee of the LCBC** was formed in 2000 to contribute to the harmonization of water resource management in the basin. Consisting of specialists from the member countries, the Committee's main responsibilities are:

- enhancing dialogue between the Member States on issues of the Lake Chad basin;
- developing a common approach regarding water management;
- harmonising policies and regulations relative to water and the environment in the Member States;
- preparing technical contributions for meetings of the Council of Ministers or the Summit of Heads of State;
- facilitating the implementation of recommendations from the LCBC by the institutions of the Member States.

**The Inter-ministerial Technical Committee (ITC)** consists of experts from the Member States and it fills the role of distributing information regarding the LCBC's activities to the different levels of administration (local and national).

**The Regional Parliamentary Committee of the Lake Chad Basin (RPCLCB)** has the duty to monitor the payment of contributions from the member countries to the LCBC budget and helping the LCBC in obtaining funds for its projects.

## 3.2. National and regional ministries and organizations of management

### 3.2.1. Focal point ministries and organizations of the LCBC in the member countries

The member countries of the LCBC have each designated a ministry or other public organization to serve as Senior Correspondent on issues concerning the Lake Chad basin in their country. It is the responsibility of these Correspondents to see to the representativity of each of the countries in the meetings, bodies and work of the LCBC, according to the specific organization and strategy of each state. In addition, the current practice in the four countries is for these Correspondents to ensure the designation of their focal point officials of the LCBC in their country, that is to say specially designated persons to process, as part of their daily work, files concerning the Lake Chad basin.

The table below shows the Correspondent ministries and public organizations of the LCBC in the riparian countries of Lake Chad:

**Table5: Focal point organizations and ministries of the LCBC in the riparian countries of Lake Chad.**

Country	Focal point ministry or organization	Role/Tasks
<b>CAMEROON</b>	Ministry of Economy, Planning, and Regional Development (MINEPAT)	coordinates development actions in transboundary basin areas, including the Lake Chad basin area
<b>NIGER</b>	Ministry of Hydraulics and Sanitation	conceives, plans, implements and evaluates water and environmental policies throughout the national territory in collaboration with other ministries and territorial authorities
<b>NIGERIA</b>	Federal Ministry of Water Resources	formulates national policies on water resources management and ensures that it is implemented
<b>CHAD</b>	Ministry of Hydraulics and Animal Husbandry	executing government policy regarding hydraulic infrastructures, knowledge, monitoring, use of water resources, meteorology and husbandry

### 3.2.2. Principal ministries and national organizations responsible for water management

Water resources management and protection is ensured by many and varied actors in each of the riparian countries, whether they are from public or private sectors, or from civil society. Actors from the public sector, subject of this audit, generally perform the functions in connection with water and environmental issues. The table below shows the principal actors in water management for each country.

**Table 6: Organizations and ministries involved in water resources management of the Lake Chad basin in the riparian countries.**

Country	Principal ministries and national organizations in charge of water management	Role/Tasks
<b>CAMEROON</b>	<i>Ministry of Energy and Water Resources (MINEE)</i>	in charge of the management and mobilization of water resources throughout the country
	<i>Ministry of the Environment, Nature Protection and Sustainable Development (MINEPDED)</i>	in charge of defining the modalities and principles of rational natural resources management
	<i>National Water Committee (NWC)</i>	in charge of studying and proposing to the government any measures or actions that might contribute to the conservation, protection, and sustainable use of water
<b>NIGER</b>	<i>Ministry of the Environment, Urban Health and Sustainable Development</i>	monitors the impacts of the degradation of natural resources accelerated by climate change and for restoration measures and the implementation of environmental conventions
	<i>Ministry of Animal Husbandry and Animal Industries</i>	implements pastoral hydraulics policy, in collaboration with other ministries and institutions concerned
	<i>Ministry of Agriculture</i>	concerned with the use of agricultural land and hydro-agricultural development
	<i>Ministry of Planning, Spatial Planning and Community Development</i>	in charge of action planning
	<i>Company for Water Utilities (SEEN)</i>	ensures the production, transportation and distribution of water in urban and semi-urban areas
	<i>Niger Water Assets Holding Company (SPEN)</i>	ensures the management and development of water resource assets, and the contracting and project management of new constructions and infrastructure extensions



<b>NIGERIA</b>	<i>Federal Ministry of Water Resources</i>	responsibility of overall water resources management and development
	<i>State Ministries and Agencies in charge of water resources</i>	ensures the supply of drinking water
	<i>Local Government Authorities (LGAs)</i>	ensure the development of agriculture and natural resources
	<i>Federal Ministry of Environment</i>	securing a quality environment conducive for good health and well-being of fauna and flora and promoting sustainable use of natural resources including water
<b>CHAD</b>	<i>Ministry of the Environment and Agriculture</i>	executing government policy regarding the environment and fishery resources
	<i>Ministry of Hydraulics and Animal Husbandry</i>	coordinates, orchestrates, conceives, implements and monitors policy regarding pastoral development and livestock production, and planning and capacity-building
		formulates and implements policies and strategies in relation to hydro-agricultural facilities and construction of the associated infrastructure
<i>National High Committee for the Environment (HCNE)</i>	ensures environmental sustainability for all development challenges, including those relating to the water sector	

### 3.2.3. International organizations

There are several international and African organizations that have been involved in the financing of projects and programmes in connection with water resources management in the Lake Chad basin, and the technical support in the four (04) riparian countries and in the Executive Secretariat of the LCBC during the period under review. These include among others: the German Agency for International Cooperation for Development (GIZ), the German Technical Agency for Development Support (BGR), the Global Environmental Facility (GEF), the World Bank (WB), the United Nations Development Programme (UNDP), the African Development Bank (AfDB), the United States Agency for International Development (USAID), the World Health Organization (WHO) and the Islamic Development Bank (IDB).

In addition, several integration organizations, covering the Lake Chad basin partially or fully, have developed policies, projects and programmes affecting agriculture, the environment and the fight against desertification, hydraulics, transport, energy, etc. These actions include: the Common Agricultural Policy of the Economic Community of West-African States (ECOWAS), the Comprehensive Africa Agriculture Development Programme (CAADP), of the New Partnership for Africa's Development (NEPAD), the NEPAD Action Plan for the Development of African Fisheries and Aquaculture, the NEPAD Short-Term Action Plan for Transboundary Water Resources Management, implementation actions of international conventions (Convention to Combat Desertification (CCD), Convention on wetlands (RAMSAR), sub-regional action programmes for combating desertification in West and Central Africa, the Regional Action Programme of Integrated Water Resources Management of West Africa (RAP-IWRM/WA) of ECOWAS.

Finally, for this audit, the participating Supreme Audit Institutions (SAIs) have received financial and technical support from the German Agency for International Cooperation for Development (GIZ), the Canadian Comprehensive Auditing Foundation (CCAF-FCVI) and SAIs of Morocco, Kenya, Tanzania and Belgium (**Annex 9**).







**CHAPTER 2    SUMMARY OF NATIONAL AUDITS**

## CHAPTER 2

# SUMMARY OF NATIONAL AUDITS

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The Supreme Audit Institutions of Cameroon, Niger, Nigeria and Chad, in their respective countries, conducted this coordinated audit on the responsibility of ministries and other public bodies concerned with the sustainable management of Lake Chad water resources.

**Three lines of inquiries** were the concern of SAIs in the context of one major question and corresponding three sub-questions:

- a. To what extent did** partner states effectively implemented monitoring, control and enforcement practices and systems to achieve sustainable use of water resources in the Lake Chad basin?
- b. (1) To what extent did partners States** put control measures in place to ensure that water quantity in the Lake Chad basin is managed in a sustainable manner?
- b. (2) To what extent did partners States** put systems in place to ensure efficient and effective monitoring of sustainable water use in the Lake Chad Basin?
- b. (3) How well did partner States** effectively enforce environmental protection regulations, guideline and standards to control water use in the Lake Chad Basin?

This part of the joint report assembles the main observations of each SAI Team, the common challenges confronting Governments of riparian countries during the management of Lake Chad Basin Water Resources as well as some good practices, main findings and recommendations arising from the audit at national level.

## 1. COMMON AUDIT OBSERVATIONS

### 1.1. Institutional framework for water resources management of the Lake Chad basin

***In the four countries, the roles and responsibilities of the ministries and organizations involved in water resources management of Lake Chad are not always clearly defined or divided.***

In accordance with the principles of Integrated Water Resources Management (IWRM), the clear definition and distribution of roles and responsibilities regarding water resources management is essential for ensuring the effective and efficient involvement of all actors, in the interest of efficiency and complementarity of actions. In the four countries audited, it is expected that this responsibility is taken on by various ministries and public organizations involved in water resources management (and specifically of Lake Chad water resources), through sufficiently elaborated legislation that clearly define and divide their roles and responsibilities.

## Box 1: Integrated Water Resources Management (IWRM)

### What is it?

It is a system of water resources management based on the following principles that guide the Integrated Water Resources Management (IWRM):

- *Water is a vulnerable and limited resource, essential to life, development and the environment;*
- *Development and management of water must be based on a participatory approach involving users, planners, and decision-makers at all levels;*
- *Women are at the heart of the provision, management and water conservation processes;*
- *With all its different and often competitive uses, water has an economic dimension. Therefore it should be considered as an economic asset.*

Since they were proposed in 1992, they have been implemented by several states and transboundary water organizations.

### The reasoning behind IWRM

There are many reasons for IWRM:

#### 1) *the basin links upstream and downstream users together*

- A drainage basin is one of the geographic units that link different users together through the water of a river or lake;
- Interests of users downstream might be influenced by actions of users upstream (pollution, withdrawal, etc.);
- Resource protection measures can only be to the benefit of downstream users (re-establishment of vegetation to reduce flooding).

#### 2) *Integration of uses*

Each user takes water according to his needs (fishing, animal husbandry, irrigation,...) without taking the needs of other uses into consideration, particularly the present and future environmental needs. These natural needs represent at the same time the vision of sustainability.

The importance of sustainability has been noted and environmental needs are starting to be taken into consideration.

It is therefore essential to integrate the need whereby the water resource must be managed, while taking into account the needs of users with a voice and the needs of the environment with no voice to ensure that it is used fairly and sustainably.

### 3) “the user-pays principle”

This fourth Dublin Principle concerns the economic dimension. Here we emphasize the various costs of water services, but also of water resources. The resource as such does not involve a cost, but one can put a political-environmental price on its protected and/or managed use. When this cost is passed on to the users through the services that they receive, we are talking about the practical application of the User Pays principle, which is often mentioned in this context.

#### Who pays?

- the user, by paying for services;
- the population, through taxes;
- technical and financial partners;
- future generations.

However, the functions of water management are divided between **use** and **protection**.

Regarding the different uses, we can distinguish among others between the supply of drinking water, irrigation, fishing, animal husbandry, and navigation.

Protection, on the other hand, involves in particular the preserving of the quality and quantity of water, the legislative framework for the use of the resource (= water withdrawal concession) the legislative framework for the protection of the resource, collecting and processing hydrological data, promoting measures to improve the resource, and impact studies.

This distinction between the uses and the protection of the resource is ineffective in many implementations of IWRM across the countries, because the word “integration” is sometimes confused with the “protection”. When these two functions are within the same structure, like a ministry or water authority, the aspect of protection often loses its importance.



### **Criticism of IWRM**

The principles of IWRM are precise and proper, but criticism is often expressed on the following:

- Confusion between “approaches” and “results” (participation, basin orientation – fair and sustainable access to water resources);
- Confusion between aspects of water protection and water uses;
- Gross water withdrawal costs are often used rather for the uses of water than for its protection;
- The rhetoric of IWRM is contradicted by the reality of a superimposition of projects by sustainable management measures (preventative protection of resources);
- Incompatibility of IWRM approaches with administrative structures;
- Lack of clarity as to who the advocate of the vision of sustainability is (the users? administration?);
- Criticism of highly regulatory systems inconsistent with IWRM.

### **IWRM in a transboundary context**

The upstream-downstream problems that exist on a regional-national level becomes an international problem with many rivers, with the additional challenge of:

- Water resources legislation that differs between countries;
- Poor relationships and even fighting between the upstream and downstream countries of transboundary basins regarding the water resource;
- The problematic sharing of benefits from the resource between the riparian countries.

This distribution of roles and responsibilities, through the IWRM approach, should include each of the following domains, with regard to water resources management in Lake Chad:

















- the coordination of the actions of ministries and organizations, according to the field of expertise of each (defining policies and strategies, making rules, managing the resource and its natural environment, resource management control, managing information on changes in the resource, etc.);




- the implementation of control measures for the use of water resources in the Lake Chad basin;
- monitoring water levels of Lake Chad and its tributaries;
- the implementation of regulations and possible sanctions.

Generally speaking, the four riparian countries of Lake Chad have established a variety of administrations and public organizations (ministries, authorities, agencies, etc.) involved in the management and preservation of water resources, without ensuring a clear distribution of their roles and responsibilities.

On this point, the situation in the four countries can be summarized as follows:

**Table 7: Coordination between actors in water resources management in the Lake Chad basin**

Relevant domains in the distribution of roles and responsibilities	Cameroon	Niger	Nigeria	Chad
Coordination of actions of ministries and organization in Lake Chad water resources management, according to the field of expertise of each				
Implementation of control measures for the use of water resources in the Lake Chad basin				
Monitoring water levels of Lake Chad and its tributaries				
Implementation of regulations and possible sanctions				

 **Excellent**     
  **Good**     
  **Inadequate**

The following specific cases can be highlighted:

- In Nigeria, the audit team observed that stakeholders' jurisdictions overlapped due mainly to the concurrent legislative powers of Federal, States and local governments, specifically in terms of the control of the use of water resources, monitoring of water levels and application of laws and regulations. This is the case

with Federal Ministry of Water Resources, River Basin Development Authorities, State Ministries of Water Resources and Water Boards/Authorities.

- In Chad, the audit identified the multitude of actors, in particular the National High Committee for the Environment, the Ministry of Urban and Rural Hydraulics, the Ministry of the Environment and Fishery Resources, the Ministry of Pastoral Development and Livestock Production, The Ministry of Agriculture and Irrigation and the Chad Hydraulics Company, among others, with no clear definition or distribution of the responsibilities between them. Moreover, the coordination of all the actions is not specifically assigned to a certain ministry or organization.
- In Niger, the audit has identified around ten institutions involved in water management. This multitude of actors has a negative impact on the effectiveness and efficiency of actions taken in this domain. The multitude of actors presents problems of coordination and overlapping of responsibilities between the different actors.

***In the four countries, the institutional framework for water resources management of Lake Chad is not implemented in a complete way***

Regarding IWRM, it is not enough to simply distribute the roles and responsibilities between the various ministries and organizations involved – it is above all important that each of them actually carries out these roles and responsibilities. On this point, the legal and professional framework applicable in the management of Lake Chad in each country provide for a variety of institutions, public organizations and consultation bodies, each with a mandate.

The joint auditing team found that many of these bodies, which should be playing a key role in Lake Chad water resources management in each country, are not functional and thus have no real use.

It follows that the roles, responsibilities and functions assigned to these organizations, aimed at ensuring the sustainable management of water resources in the Lake Chad area, are then not actually fulfilled, or only partially fulfilled. This situation results in a disruption of the complementarity and synergy of actions undertaken by the various actors in the management of Lake Chad, which are necessary for these actions to be effective and efficient. Therefore, when the main projects and programmes are introduced, they do not take into account all the concerns of the field and have a diminished impact or none at all.

The table below presents the non-functional bodies in the 4 countries:

**Table 8: Non-functional organizations and agencies of water resources management in the Lake Chad basin in its riparian countries.**

Country	Non-functional bodies	Mandates	Consequences of the absence
Cameroon	<b>National Water Committee</b>	The mission of the NWC is among other things to prevent and regulate the inevitably conflicting demands for water resources, in terms of domestic use, irrigation, environmental protection and hydroelectricity, as well as other problems such as pollution or changes in water flow.	Lack of planning and coordination of water resources management in the country.
Niger	<b>National Water and Sanitation Commission (CNEA)</b>	A consultative and cooperative body. The CNEA must be consulted on: <ul style="list-style-type: none"> <li>• the strategy for improving knowledge of water resources;</li> <li>• water resources development and management schemes;</li> <li>• the arbitration of disputes regarding internal and shared water resources management;</li> <li>• guidelines and measures proposed by public authorities within the fields of health, environmental protection and forestry;</li> <li>• any activity that might impact on water and sanitation</li> </ul>	The malfunctioning of consultative and cooperative bodies at national and regional level

<p><b>Nigeria</b></p>	<p><b>Hadejia-Jama'are-Komagugu-Yobe Basin Coordinating Committee (HJKYBCC)</b></p>	<p>Generally to consider and determine major policy issues of common interest to the Basin states concerning effective planning and management for the equitable, efficient and sustainable use of the water, land and other environmental resources of the Hadejia-Jama'are-Komadugu-Yobe Basin.</p>	<p>Lack of effective planning and management for the equitable, efficient and sustainable use of the water, land and other environmental resources of the Hadejia-Jama'are-Komadugu-Yobe Basin.</p>
<p><b>Chad</b></p>	<p><b>Water Sector Regulatory Agency</b></p>	<p>Regulatory body in charge of:</p> <ul style="list-style-type: none"> <li>• ensuring the objective implementation of regulations relating to the water sector;</li> <li>• proposing water tariffs to the state for approval;</li> <li>• approving multi-annual investment programmes;</li> <li>• approving the award of contract of an amount determined by the concession agreement</li> </ul>	<p>The coordination and regulation of water resources use and management is not guaranteed.</p>

***In the four audited countries, the coordination of the activities of ministries and other organizations involved in the management of the Lake Chad basin is not very effective and does not meet the reasonable expectations.***

Given that the water resources management of the Lake Chad basin falls within a transboundary area and involves, at national level, a multitude of actors, it is necessary that actions of the state should be coordinated with the LCBC, just as those undertaken by the various actors within each country should be. This key role of coordination is at national level generally entrusted to a ministry or other public organization concerned with either national policy on development and public investment, or national water and environmental policy, as a focal point of the LCBC activities in the country as discussed above.

















Within the framework of this coordination, it would have been expected in particular of this national focal point to:

- define the modalities, rules, procedures and frequency of coordination actions and convey them to all actors;
- have regular consultation meetings with the other ministries and organizations involved, in order to ensure participative and complementary planning, implementation, control, and evaluation of actions, and to be aware of the contributions of each of the actors within their powers and prerogatives;
- make sure that the contributions and technical concerns of all actors are taken into consideration, and that they are effectively integrated into the country's position in the LCBC;
- ensure the systematic dissemination of the decisions, resolutions and regulations formulated or adopted within the LCBC, to all national actors.

The joint auditing team has found that, in the 04 riparian countries, the coordination of the activities of ministries and other organizations involved in the management of Lake Chad is not very effective and does not meet the reasonable expectations explained above.

The table below summarizes the situation in each of the four countries:

**Table 9: The coordination status of organizations, ministries and agencies involved in water resources management of the Lake Chad basin.**

Responsibilities and expectations regarding coordination in each country	Cameroon	Niger	Nigeria	Chad
<b>Designating a ministry or organization for the coordination of actions in the Lake Chad basin</b>				
<b>Disseminating the rules and procedures in connection with the coordination of actions in the Lake Chad basin</b>				
<b>Organizing and having regular consultation meetings of the coordinating body with other ministries and organizations involved, to ensure concerted and participative planning, implementation, control and evaluation of actions undertaken in the Lake Chad basin</b>				
<b>Systematic dissemination of information from the LCBC and non-discretionary inclusion of the technical contributions of all actors within their powers and prerogatives</b>				

 Excellent

 Good

 Inadequate

This situation results in institutional inertia regarding the challenges of Lake Chad with many of the actors, whose actions are necessary for the protection of water resources of the Lake Chad basin, in most of the four countries. It has above all contributed to the development of a wait-and-see attitude, mainly marked by a lack of national initiatives related to Lake Chad and a tendency to abandon both strategic and operational initiatives for the protection of natural resources in the Lake Chad basin area, leaving it solely to the LCBC, who does not have a sufficient mandate to act at the level of member states.

It follows that in most of the four countries, without adequate consultation or relevant information on the broad guidelines, policies and strategies of the LCBC, each of the ministries and organizations involved undertakes actions without always taking the initiatives of other actors into account. In Nigeria's case, the problematic security situation in the Lake Chad area is preventing public authorities from implementing concerted, large-scale actions.

## 1.2. Policies and strategies for water resources management of the Lake Chad basin

***In all four riparian countries of Lake Chad, the formulated and adopted policies and strategies for water resources management are incomplete.***

The implementation of the principle of participation, promoted by IWRM, requires strategies to be coherent in order to ensure the efficiency and effectiveness of the implementation of water resources management actions and initiatives. In effect, integrated and sustainable management of water resources requires the coherence of programmes and activities, as well as of means mobilised by the ministries and organizations involved, in a concerted manner, to form a consistent management system that functions efficiently. This requirement is particularly accentuated in the case of Lake Chad, a transboundary basin where the trend towards drying up has been very pronounced in recent years, with numerous actors involved in all four of the riparian countries.

This principle of participation promoted by IWRM implies that, across all levels of management of a transboundary basin, the users, planners, and policy makers can be informed about the formulation, implementation and evaluation of policies and strategies of water resources management. This requires of the responsible ministries and organizations to acquire a comprehensive strategy and tools that will allow them to meet this requirement.

























The joint auditing team has found that the policies and strategies for water resources management of the Lake Chad basin, formulated by the responsible ministries and organizations and adopted in each country, are not adequately documented or are incomplete.

Thus, the audited countries have generally each in their own right formulated, adopted and documented multiple national policies and strategies for water resources management that are mostly incomplete, but which do include the Lake Chad basin, with the exception of Cameroon. Yet even in Cameroon, policy guidelines for water management can still emerge from ratified international conventions and disorganised policy declarations.


The auditors have in fact noted that the management policies and strategies formulated in this way presents deficiencies that might have a negative impact on water resources management of Lake Chad and the natural environment of its basin. The table below sums up the deficiencies noted by the auditors:



**Table 10: Deficiencies and shortcomings of strategies and policies in relation to water resources management in the Lake Chad basin.**

Criteria for water resources management of the Lake Chad basin	Cameroon	Niger	Nigeria	Chad
Presence of formal policy and strategy for water resources management, including for the Lake Chad basin				
Presence of integrated policy and strategy taking all the ministries and organizations involved into consideration				
Presence of sectoral policy and strategy formulated by each actor				
Providing for the control of activities that involve the use of water resources of Lake Chad in the policies and strategies				
Providing for the control of activities of land development and human settlement in the Lake Chad basin in the policies and strategies				
Providing for water use allocation quotas in the policies and strategies				

 Excellent

 Good





















 Inadequate

The joint auditing team has also established that the competent ministries and organizations in water resources management in the Lake Chad basin do not have the appropriate tools to allow for the implementation, monitoring and evaluation of the policies and strategies defined.

Consequently, these policies and strategies are only partially applied in the four riparian countries.

The table below details the missing tools for each country:

**Table 11: Missing tools in the policies and strategies of sustainable water resources management in the Lake Chad basin.**

Tools for the implementation, monitoring and evaluation of policies and strategies in water resources management of the Lake Chad basin	Cameroon	Niger	Nigeria	Chad
Operative legislation and regulations				
Strategic plans				
Implementation or action plans				
Performance indicators and definition of expected results				
Execution timetable				



Excellent



Good



Inadequate/  
Nonexistent

The absence of all or some of the water policy and strategy documents, which formally recognise the state's vision in terms of water and establish their mid- and long-term actions, leads to: the increased risk of an offhand approach to management of water resources, notably of the Lake Chad water resources, in the riparian countries; the continued vagueness around the riparian states' objectives regarding water, as well as the guiding principles, the means for achieving these goals and the monitoring and evaluation systems for the implementation of political guidelines on this issue.

Furthermore, the absence of all or some of these vital instruments for management of water resources covering the national sections of the Lake Chad basin prevents the states from being able to relay on national level the modern principles of water management adopted within the LCBC. This shortfall eventually hampers water management efforts undertaken by this transboundary organization and makes it more difficult to subsequently harmonize policies, strategies, plans and tools to enable the sustainable management of water resources of the Lake Chad basin.

**Table 12: Status of strategies and policies for water resources management in the riparian countries of Lake Chad.**

Country	Water policy and strategy document	Planning document: water	Policy and strategy document; environment
<b>Cameroon</b>	None	National Action Plan for Integrated Water Resources Management (NAP-IWRM) is still busy with an inventory of water resources.	National Action Plan to Combat Desertification (NAP/CD – 2006)
<b>Niger</b>	Policy and strategies for water and sanitation (2001)	Master Plan for the development and management of water resources (1998)	National Environmental Plan for Sustainable Development (NEPSD)
<b>Nigeria</b>	Water Resources Decree 101 of 1993; RBDA Decree of 1973, 1979 & 1990 Draft National Water Resources Policy (2004/2009 Revised) and Draft Water Resources Bill (2009)	Nigeria Water Sector Roadmap (2011) and National Integrated Water Resources Management Action Plan with its 8 semi autonomous catchments and Lake Chad Basin Catchment Management Plan (2011)	Environmental Impact Assessment (EIA) Act No. 86 of 1992; National Environmental standards and Regulation Enforcement Agency ( Establishment) Act 2007 and Federal Environmental Protection Agency (FEPA), established by Decree 58 of 1988, as amended by Decree 59 of 1992 and by Decree 14 of 1999, ensuring good quality environment for Nigeria
<b>Chad</b>	None	Master Plan for water and sanitation of Chad (2003)	None

► **Recommendation**

The auditors suggest that states that do not yet have national water policy documents should ensure that these are provided in order to have better control over mid- and long-term management of water resources in their region and of those of Lake Chad in particular.

The auditing team recommends that states that already have these documents should ensure that they are complete and that the principles set out are compatible with international instruments ratified by them and especially with those adopted within the LCBC. In this regard, ratification of the Lake Chad Water Charter is of fundamental importance for the success of efforts for the rational and sustainable water resources management in the Lake Chad basin.

Consequently, it is imperative that the riparian countries of the Lake Chad basin must ratify the Water Charter before the deadline of 31 December 2015. In addition, national strategies that must still be formulated or updated should take into consideration the needs of all stakeholders in water resources management in Lake Chad. They should also each have a clear definition and distribution of the roles

and responsibilities that it entails. Finally, strategies can be made more effective by simultaneously developing tools for its implementation, particularly for action plans that include clear and accurate performance indicators which allow for systematic annual evaluation.

### 1.3. User control measures













**The measures for controlling users of water resources, even though provided for by the regulations of each of the four riparian countries, are not implemented.**




According to the IWRM approach, the sustainable management of water resources necessarily includes the establishment and application of water use control measures due to the fact that fresh water is a limited and vulnerable resource, which is essential to life, development, and the environment, with a strong economic dimension.

In the case of the Lake Chad basin, the joint auditing team has found that the measures for controlling the users of water resources, including the granting of water withdrawal permits or authorizations, are admittedly provided for by regulations in each of the four riparian countries, but they are not implemented. Moreover, the mechanisms for allocating withdrawal quotas for users are nonexistent.

This situation in each of the countries is illustrated by the table below:

**Table 13: Evaluation of the application of measures to control the use of water resources.**













Necessary mechanisms and actions for controlling water resources management in the Lake Chad basin	Cameroon	Niger	Nigeria	Chad
Effective granting of withdrawal permits or authorizations to users				
Effective definition and allocation of quotas on water use to users				
Activities of water use control by well-equipped and functional permanent units (inspecting officers, decentralized units, etc.)				


 Excellent
  Good
  Inadequate/ Nonexistent

The auditors have also found that in the four audited countries, environmental assessments are generally not always carried out on most of the large water impoundment or intake constructions on Lake Chad and its tributaries, despite the provisions in their legislation that institutes this obligation.


The result of this lack of evaluation is that the impact of these water impoundment and intake constructions on the natural resources and especially on water quantity is poorly known or completely ignored, which means that management decisions cannot be made on the basis of precise knowledge of the status of the resource.

**Table 14: Status of environmental assessments of water impoundments in the Lake Chad basin.**

Types of water impoundments and intake constructions on Lake Chad and its tributaries	Cameroon	Niger	Nigeria	Chad
Dams				
Water intake and reservoir				
Waterholes				

 Excellent knowledge

 Good knowledge

 Insufficient or no knowledge

In order to ensure the effective protection of water resources, it is important to ensure a controlled occupation of land on the lake's shores and to control human activities taking place there, with the aim of limiting its negative impact on the quality and especially the quantity of water resources.

The joint auditing team has in general determined that the competent ministries and organizations have not put control measures and mechanisms in place for the occupation of land surrounding Lake Chad and its tributaries, and for human activities resulting from it. The box and figure below illustrates the scale of human activities on water resources in the Lake Chad basin.

## EBox 2: Main human activities affecting the quantity of water in the Lake Chad basin

Besides climate changes, various human activities related to the use of water resources of Lake Chad have a serious impact on the quantity of water in the basin. The most important of these are: the building of dams, irrigation, agriculture, animal husbandry, deforestation and fishing.

### Dams and irrigation works

After becoming independent, the four countries bordering on Lake Chad started to construct vast irrigation networks from watercourses running into the lake in order to water export crops that were previously supplied by colonial powers. At first, irrigation only had a small effect on the lake between 1953 and 1979, but the volume of water diverted from the lake quadrupled between 1983 and 1994.

In Chad, as part of the Southern Chad Irrigation Project, a system was installed by British engineers to irrigate crops of rice and wheat on a 67 000-hectare stretch of land.

In Nigeria, two large dams built on the Komadugu-Yobe River reduced the annual flow of this river from 7 km<sup>3</sup> to 0.45 km<sup>3</sup>. In total, the river is currently strewn with 20 dams, considerably reducing its flow: according to the World Bank, only 1% of the original amount of water from the river now reaches Lake Chad, with the rest being absorbed by various water catchment facilities (including illegal channels dug out by farmers along the river to divert water to their fields).

Still in Nigeria, two dams built on tributaries of the Hadejia River have diverted 80% of its water, and the water table has dropped by 25m because of this. Not far from there, on the Jama'are River, the construction of the Kafin Zaki dam might have an even bigger effect on the rest of the wetlands when it is completed.

In Cameroon, the Maga dam that was built in 1979 to support the extensive farming of a rice-producing public enterprise, has contributed to major changes, with the flood plains area shrinking from 8 000 km<sup>2</sup> to 964 km<sup>2</sup>.

Dams also alter the regime of the hydrographic network of the Chari-Logone River and have a negative impact on flood plains. As such, the water flowing into Lake Chad from the Chari-Logone River has decreased by 55% over the past 40 years.

### Animal husbandry and agriculture

In the Lake Chad basin, overgrazing in the savannah by herds of cattle and other animals belonging to nomadic herders contributes to accelerated desertification. As the region continues to dry up, more people gather around the lake and increase the pressure on the land, creating a harmful cycle that causes the climate to become even drier and increases the evaporation of Lake Chad's water.

The withdrawal of water to support agriculture on the marginal land reduces the water supply to Lake Chad, and the ploughing of land causes more sediment deposits in the rivers. This causes changes to the flow of the channels and the colonization of silted areas by invasive species.

(Source: FRECHETTE, 2013)

### Fishing

Watercourses are also endangered by the use of illegal fishing channels, which are deep, open, man-made trenches of different shapes that link:

- a pond with a watercourse or;
- a section of the plain with a watercourse or;
- a section of the plain with a pond linked with a watercourse.

Families started to create channels by hand for themselves during years of severe drought that the Sahel have experienced, and fisherman followed soon after by digging their own channels for fishing.

These channel are blamed for:

- the disruption of the natural hydrologic system, since they form a real hydrographic network that decreases the water volume of Lake Chad. Moreover, some of these are comparable to watercourses, with a peak flow of over 20 m<sup>3</sup>/s;
- changes in the behaviour of fish species;
- the gradual extinction of certain fish families;
- the loss of landmarks for water birds (specifically food and habitat);

- contributing to the complete drying up of watercourses in the area, like the Logomatya River;
- worsening the effects of drought and the degradation of plant cover;
- the diminishment of grazing areas and arable land;
- an impediment to animal health (various traumatism);

(Source: ACEEN, 2013)

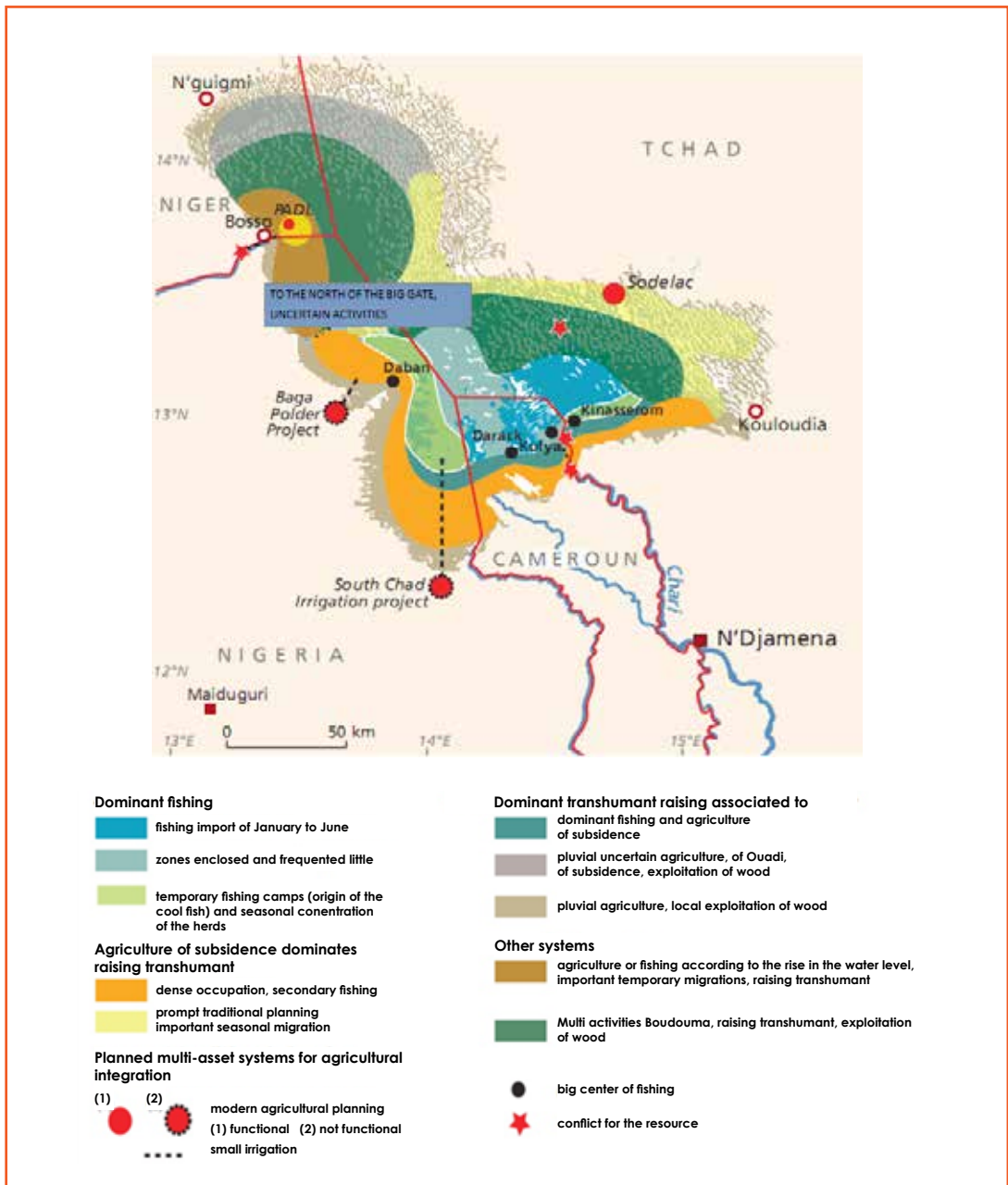














Figure 4: Multifunctional areas of Lake Chad and its surroundings  
Source: RAIMOND and RANGE, 2014 (Atlas of Lake Chad, forthcoming), IRD, 2014.




The documentary review has thus highlighted the increase in illicit fishing practices (fishing channels) and in overgrazing, resulting from transhumant pastoralism outside of the dedicated areas. These practices, especially of fishing, encourage increased evaporation of rivers and other bodies of water through the increase of new branches or offshoots of a main stream bed. As for uncontrolled transhumance, this contributes to reduced water infiltration into the clay soil of the Lake Chad basin and thus to even drier soil conditions and desertification. All these factors accentuate the tendency towards the drying up of Lake Chad.

The table below summarises the situation in each country:

**Table 15: Evaluation of practices that accelerate the deterioration of the natural environment of the Lake Chad basin in the different riparian countries.**

Challenges in connection with human practices and activities of water resources management in the Lake Chad basin	Cameroon	Niger	Nigeria	Chad
Controlling the occupation of land on the shores of Lake Chad and its tributaries				
Controlling and monitoring fishing practices that jeopardise the sustainable management of Lake Chad and its tributaries				
Controlling and managing activities that could have a negative impact on the environment of Lake Chad and its tributaries (disordered cutting of wood, transhumance, etc.)				

 Excellent

 Good

 Inadequate/ Nonexistent

#### 1.4. Water quantity monitoring measures

***In the four riparian countries of Lake Chad, water quantity monitoring and surveillance programmes are nonexistent, only partly functional, or no longer functioning.***













From an IWRM perspective, it is expected of ministries and public organizations responsible for water resources management in the Lake Chad basin to make sure that they have current and adequate knowledge of water resources and needs at all times. To accomplish this, these bodies should, in particular, ensure that water quantity monitoring and surveillance programmes and projects are in place and functioning effectively in the different countries, under the principles of balanced management of water resources and the protection of nature and the users.


In the context of the Lake Chad basin, this requirement can be met through the implementation of a hydrologic surveillance programme that should at the very least include the installation of a networked system, consisting of suitable, constantly upgraded equipment as well as skilled human resources, for proceeding with hydrometric surveys on a regular basis to control the status of water resources and the use thereof, so that the updated data collected can be used for decision-making purposes.


The joint auditing team has established that, in the four riparian countries of Lake Chad, water quantity monitoring and surveillance programmes are nonexistent, only partly functional, or no longer functioning because of the lack of maintenance and renewal.


Consequently, there are no mechanisms in place that can allow ministries and organizations in each country to regularly and systematically obtain relevant and useful data regarding the amount of water used, the flow of watercourses in the Lake Chad basin, or the changes that occur. The situation in each country presents itself as follows:

**Table 16: Evaluation of water level monitoring and surveillance programmes in the Lake Chad basin.**

Status of water level monitoring and surveillance programmes and data gathering in the Lake Chad basin	Cameroon	Niger	Nigeria	Chad
Surveillance of the amount of water drawn				
Surveillance of the flow of watercourses				
Surveillance of changes in water levels				

 Excellent

 Yes

 No

The IWRM-approach to the sustainable management of water resources recommends that water resources should be distributed fairly and managed in a balanced way. For Lake Chad and its tributaries in particular, this can be done by knowing precisely the needs of users and monitoring their withdrawal through the regular collection of relative data and passing it on to the national, sub-regional and international authorities involved.

The joint auditing team has found that, in the four audited countries, reports with data on the amount of water drawn and its use, as well as on water needs, are not systemised and regular or are simply not drawn up. This situation, resulting from the complete or partial absence of programmes or networks for measuring water levels, mainly results in the inability of the four riparian countries of Lake Chad to fulfil their obligation towards the LCBC in this matter.

It is as a matter of fact the responsibility of the riparian countries to gather the aforementioned data to ensure that decisions are made that are useful and based on the actual risks related to the management of Lake Chad. It is also their responsibility to contribute in this way to the collection, processing, storage and distribution of consolidated and updated data, objects of the regional database created within the LCBC.

### 1.5. Measures for the enforcement of legislation and sanctions in case of infringement

***Even though all four of the riparian countries have enacted binding rules to control the major uses of water resources, the protection measures provided for in the applicable legal and regulatory framework are very poorly implemented.***

With regard to IWRM in a transboundary context, like that of the Lake Chad basin, it is the responsibility of each riparian state to institute, through its responsible ministries and organizations, legislation for the sustainable management of water resources. This legislation must in particular include water resource protection measures which are sufficiently restrictive towards users.



**The joint auditing team has established that, in each of the four riparian countries, binding rules to control the major uses of water resources have generally been enacted.** These rules are contained in the legal and regulatory framework for the protection of water resources in each country, including the resources of the Lake Chad basin.

The following table presents a summary of the relevant rules and regulations adopted in each audited country, and which applies to the protection of water resources of the Lake Chad basin.

**Table 17: Directory of the main laws that constitute the legal framework for water resources management in the four riparian countries of Lake Chad**

Country	Main laws and regulations adopted	Contents
<b>Cameroon</b>	<ul style="list-style-type: none"> <li>Law No. 98-005 of 14 April 1998 on the Water Regime and its implementing legislation</li> </ul>	<p>This law marks a new era in the domain of water and sanitation in Cameroon, characterized in particular by:</p> <ul style="list-style-type: none"> <li>the liberalization of the supply sector;</li> <li>paying close attention to the protection of water resources;</li> <li>strict, rational management of water resources; national coordination of water services and supply throughout the country.</li> </ul>
<b>Niger</b>	<ul style="list-style-type: none"> <li>Ordinance No. 2010-09 of the 1<sup>st</sup> of April 2010 on the Niger Water Code</li> </ul>	<p>Determines water resources management procedures for the whole country.</p> <p>It also identifies the requirements relating to the organization of water supply to people and livestock on the one hand, and to hydro-agriculture developments on the other.</p>
<b>Nigeria</b>	<ul style="list-style-type: none"> <li>Water Resources Decree 1993</li> <li>The River Basin Development Authority Decree of 1987, RBDA Act 1990, RBDA Decree 1979.</li> <li>Water Charter for a Sustainable and Equitable Management of the Hadejia-Jama'are-Komadugu-Yobe Basin (2007).</li> <li>EIA Act. 1992</li> <li>States Water supply/Environmental Edicts and Policies</li> </ul>	<ul style="list-style-type: none"> <li>The management, right to the use and control of all surface and groundwater and of all water in any water-course in Nigeria.</li> <li>Gives effect to the inter-state agreement relating to the utilisation of shared rivers for economic, industrial and social developments. In addition, hydrological and environmental data is collected and used for dam operations</li> <li>Development, adoption, and implementation of policies and strategies concerning Water and related natural resources in the HJKY Basin.</li> <li>Securing a quality environment conducive for good health and well-being of fauna and flora and promoting sustainable use of natural resources including water.</li> <li>Portable water supply and environmental protection provisions but not on water resources management.</li> </ul>
<b>Chad</b>	<ul style="list-style-type: none"> <li>Law No. 016/PR/99 of 18 August 1999 on the Water Code</li> </ul>	<p>Defines the collection of all the water resources located in Chad as a public good forming an integral part of the public domain of the state.</p> <p>It also aims at safeguarding water resources and protecting it from pollution and contamination risks, to meet or respond to the demands for drinking water of the people and to the needs of agriculture, animal husbandry, industry, transport or any other activities of general interest.</p> <p>The law also strives to ensure the conservation of the biological life of the receiving environment, the protection of sites, water conservation, etc.</p>

The effectiveness of the water resources protection system does not just lie in the presence of adequate rules, but depends more on the full and proper implementation of the enacted rules, their updating, as well as the enforcement mechanisms established.

In this regard, the auditors have noted that the water resource protection measures of Lake Chad and its tributaries, provided for in the applicable legal and regulatory framework, are poorly implemented in all four riparian countries of Lake Chad, which makes them ineffective.

This gap is notably characterized by the following specific situations:

**In Cameroon**, the auditing team has mainly found that the water inspection body, consisting of officers responsible for ascertaining potential violations and performing the relevant law enforcement efforts, has not been functioning for almost a decade, as a result of the inaction of the Ministry of Energy and Water in terms of scheduling and performing inspections by its officers. For example, in the Cameroon-section of Lake Chad, water inspectors that can be deployed are large unsatisfactory, being only two (02) in total and not having the equipment for on-the-spot checks.

**In Niger**, the law on the Water Regime assigns the surveillance of water resources in the country to sworn public officers of the state and decentralized authorities. However, the logistical and human resources mobilized for this purpose are limited or nonexistent, which considerably reduces the frequency at which checks can be performed by these officers. The responsible ministries and organizations have thus not indicated any monitoring activity performed in their annual reports during the audited period, since none were actually carried out.

**In Nigeria**, examination of the documents produced by the Federal Ministry of Water Resources (FMWR) and the six States within Lake Chad Basin showed that the relevant Ministries, Departments and Agencies (MDAs) did not plan specific control, monitoring and enforcement activities to be implemented in order to ensure the equitable, efficient and sustainable use of the water, land and other environmental resources of the Hadejia-Jama'are-Komadugu-Yobe Basin provided for under the law. In addition, no functional unit was formed for this purpose by the relevant MDAs at Federal, State and Local levels. Finally, these MDAs have not provided or allocated resources for the execution of such control, monitoring and enforcement activities.

**In Chad**, the law on the Water Code and the decree on the creation of the National Water Management Committee (CNGE) gives the responsibility of monitoring the implementation of water resource protection measures to ministries competent in water and to the CNGE. However, the activities that can be carried out by these actors are poorly coordinated, for a lack of adequate clarification on their respective roles and prerogatives. Moreover, these ministries and organizations have not mobilized or made sufficient human and material resources available to the control units in the lake area. Because of this, interventions by these units are limited to administrative control, while the site itself is barely checked at all.

## 1.6. Raising awareness among users of water resources

***Activities of dissemination, popularization and awareness-raising among users, the population and other stakeholders regarding water resource protection measures in the Lake Chad basin area are inadequate or nonexistent.***













In the context of managing transboundary basins, the publication and popularization of established rules, as well as raising awareness among users and other stakeholders for the sustainable management of water resources, constitute one of the mechanisms for encouraging the precise and effective application of laws and regulations for the protection of water resources. This is a requirement of the participation principle of IWRM, whereby water development and management should be based on a participatory approach that includes users, planners, and decision-makers at all levels. This requirement is also rooted in the public participation and information principle.

Information and awareness activities on this subject, which is mainly the responsibility of the focal point ministries of LCBC activities in each country, should not just be about promoting institutions, ministries, programmes and other organizations of water resources management. It should rather attempt to inspire support from other stakeholders by focusing primarily on the risks that the water resources are exposed to, as well as on the protection measures enacted, good practises that should be implemented and the sanctions that can be imposed on offenders, in order to increase the possibility of a positive impact on recipients (water users, populations around Lake Chad, etc.).

The auditors have established that dissemination, popularization, and awareness-raising among users, populations and other stakeholders regarding water resource protection measures in the Lake Chad basin area have been inadequately performed or otherwise, in most cases, nonexistent. The few initiatives recorded in this respect were focused exclusively on promoting LCBC events or bodies, rather than on the popularization of good practices able to encourage the protection of water resources in the Lake Chad basin in the four riparian countries.

The situation in each country is summarized in the table below:

**Tableau 18: Evaluation of awareness-raising for sustainable water resources management of the Lake Chad basin in the riparian countries.**

Methods of dissemination, popularization and awareness-raising regarding the protection of water resources of Lake Chad	Cameroon	Niger	Nigeria	Chad
Organization of dissemination, popularization and awareness-raising activities regarding the dangers to Lake Chad water resources				
Organization of dissemination, popularization and awareness-raising activities regarding the rules for the protection of Lake Chad water resources				
Organization of dissemination, popularization and awareness-raising activities regarding responsibilities and good practices to develop for the protection of Lake Chad water resources				



Excellent



Good



Inadequate/  
Nonexistent

Consequently, Lake Chad water users and other stakeholders know little or nothing about the legal and regulatory framework. In fact, because of the lack of knowledge of the rules governing the use of water resources in the Lake Chad basin, users and other stakeholders are not too concerned with the rational use of these resources and are not developing good management practices.

### 1.7. Enforcing sanctions for violations relating to water resources management

***Because of the lack of efforts and initiatives from the responsible ministries and organizations, sanctions for violations relating to water resources management are not enforced in the four riparian countries of Lake Chad.***

In addition to awareness-raising, and in accordance with the IWRM principle of repairing damage to water resources, it is also the responsibility of the relevant ministries and national organizations of management and protection of water resources of Lake Chad and its tributaries in the four riparian countries, to carry out all necessary efforts to ascertain and enforce the sanctions laid down for infringements on legal and regulatory provisions in the respective countries. It would in particular have been expected of them to have performed inspections to be able to ascertain

possible infringements to the sustainable management of water resources, according to the methods and procedures in effect in the country.

The joint auditing team has found on the one hand that the aforementioned reasonable efforts are not effective, and on the other hand that, through lack of control, the ministries and organizations involved have not ascertained possible infringements to the laws and regulations for the protection of water resources of the Lake Chad basin in any of the audited countries. The sanctions provided for could therefore not be enforced, since violations of laws and regulations could not be ascertained.

The inability to ascertain potential violations of legislation and regulations, as well as the absence of enforcement of the sanctions laid down, result in a situation of impunity which is detrimental to the improvement of the governance of water resources in the Lake Chad basin. In fact, because of this major weakness, it is impossible to hold offenders accountable, or to evaluate the effectiveness of rules enacted in order to see if they might be improved.



## **2. COMMON CHALLENGES FACED BY THE GOVERNMENTS**

In the context of water resources management of Lake Chad and its tributaries, the auditors have established certain situations and facts that apply in the four riparian countries of the lake, creating challenges and constraints. The most important of these common challenges, some of which may be related to Lake Chad's evolution, mainly involves the security in this border area, the sufficient availability and proper management of resources allocated to conservation activities for Lake Chad, the effective involvement of users and communities living around the lake, and enhancement of these unique wetlands in the Sahel region.

### **2.1. Security**

The main challenge at the moment in relation to water resources management in the Lake Chad basin by the governments of the riparian countries is without a doubt the restoration of security in the area. This lack of security, caused in part by the deterioration of the populations' living conditions resulting from the progressive drying up of Lake Chad and on which the execution of any development initiative in the area depends, is in effect worsening. This insecurity has considerably increased both in transboundary situations as well as where it is contained within the borders of certain riparian countries, sometimes in the form of regular thieving upon encountering travellers, and sometimes of armed groups engaging in illegal activities of abduction and terror among the inhabitants of this area. It is consequently crucial for the governments of the four riparian countries to work to restore adequately safe conditions in order to make the sustainable management of water resources in the Lake Chad basin possible.

### **2.2. Sufficient availability and proper management of resources allocated to development initiatives in the Lake Chad basin**

The work of the auditors has revealed that one of the major constraints imposed on the governments of the riparian countries of Lake Chad is the availability and allocation of sufficient human, financial and material resources for accomplishing activities that contribute to the sustainable management of water resources of this transboundary basin. In effect, with national budgetary constraints becoming tighter in these countries, trade-offs are often necessary in national resource allocation for the development of this area. In this regard, despite the variable nature of the overall dependence of the riparian countries on the water resources of the Lake Chad basin, it is the responsibility of the governments to expand national interest towards the adequate conservation of these freshwater resources. Moreover, the importance of the need for infrastructure, basic services and development activities in this area is now well established, but the efforts in this respect from the four countries should be more effective in order to attract larger contributions from international technical and financial partners.

The available resources, although insufficient, are for the most part only used to a very limited extent for the prioritization of needs or for the coherence and harmonization of actions undertaken within national borders with those of other countries on the one hand, and with the LCBC's actions on the other. This leads to the multiplication of activities, programmes and projects in this area, with no real visible impact on the reversal of environmental degradation trends or the safeguarding of the water resources of Lake Chad.

### **2.3. Effective involvement of users and communities in initiatives for the conservation and protection of Lake Chad**

Lake Chad and its tributaries represent the main provider of income and means of subsistence for the populations and riparian countries in this area through various economical activities, and it is important for the governments of the riparian countries of Lake Chad to ensure the effective involvement of water users and communities living around the lake. In fact, it has proven to be unrealistic to plan any activity of sustainable water management without ensuring the commitment of the lakeside residents, who are the main water users (businesses or populations). It is only through a commitment like this, which must be reflected in the participative management of resources of the Lake Chad basin, that significant change will be brought about in the practices and habits in order to get rid of those that are harmful, and to promote the establishment of practices of sustainable water resources management.

### **2.4. Enhancement of Lake Chad, unique wetlands in the Sahel region**

In view of the significant potential of the Lake Chad basin and the evolution of the state of this area on hydrographic, demographic, security and economical activity plans, the governments of the riparian countries must also take on the challenge of committing to the effective development of this part of the Sahel. Due to its central role, no possible development initiative, whether on national or transboundary level, can ignore Lake Chad without risking failure. It is their responsibility to fully enhance the productive potential of this expanse of water and to allow it to be the driver of regional development as could be expected of it.

Consequently, the development of the Lake Chad basin, measured by the conventional indicators of access to public goods and amenities (education, health, water, energy, roads, etc...), depends on the clarification of the public and economic policy choices made by these governments. Possible options, which should be adapted according to the specific context of the Lake, include:

- determining exactly the purposes of the lake, in order to decide whether this expanse of water should be considered as a vehicle for production or a resource that must be preserved;

- defining action principles for managing the environmental variability in the Lake Chad basin, in order to arbitrate between actions aiming to transform the environment, and those to encourage the adaptation of all stakeholders;
- determining the development models agreed upon by the governments for this area and adapted to the sectors and the economic and family activities operational in the basin. A choice might have to be made for example between capitalistic agriculture and family farming, the development of regional strategies only at LCBC level or within each state, etc.

### 3. GOOD PRACTICES AND INITIATIVES

The checks carried out as part of this audit have brought to light some good practices in some of the four countries concerned, which contributes in the effort for sustainable management of Lake Chad, its tributaries and the ecosystems depending on them. These innovative initiatives should be encouraged, and can be duplicated and adjusted elsewhere. They are summarized in the table below:

**Table 19: Some good practices identified during the audit.**

Country	Good practices	Contents	Positive effects on sustainable management of Lake Chad
<b>Cameroon</b>	The Ministry of the Environment, Nature Protection and Sustainable Development (MINEPD-ED) has carried out reforestation efforts in the Region of the Lake Chad Basin as part of an operation known as " <b>Sahel vert</b> " ("Green Sahel").	Reforestation appears to be one of the most realistic and sustainable solutions for the increasing drought ravaging the Lake Chad basin and contributing to the decrease in water resources.  According to MINEPD-ED statistics, <b>2 960 000 tree seedlings</b> have been planted over <b>18 500 hectares</b> between 2008 and 2013, but with a mixed outcome in terms of lasting results, for lack of adequate planning and strategies taking climatic and cultural constraints in the Region into consideration.	Reforestation helps to significantly reduce evaporation, erosion of banks, and siltation of stream beds, which are all important causes of the decrease in the amount of water that comes from Lake Chad's tributaries.
<b>Niger</b>	Ministry of the Environment, Urban Health and Sustainable Development (ME/SU/DD): Safeguarding and protecting land in the lake basin.	A number of land restoration, reforestation, sand dune fixation, and land recovery actions have been undertaken, but there is still a lot to be done in view of the scale of the threat.	Environmental restoration in the form of the fixation of dunes, land recovery and the protection of stream banks.

<p><b>Nigeria</b></p>	<p>The implementation of a coordination mechanism for the management of water resources in the Nigerian section of the Lake Chad basin in accordance with IWRM principles, through the creation of the Hadeja Jama'are Komadugu Yobe Basin Trust Fund.</p>	<ul style="list-style-type: none"> <li>• The establishment of the Hadeja Jama'are Komadugu Yobe Basin Trust Fund, consisting of six federated states of Northern Nigeria. The organization has the power to formulate legislation, to control the application of rules and to coordinate resources and development actions in the Lake Chad area.</li> <li>• The enactment of a charter for the shared management of water resources by the six federated states, based on the following principles: <ul style="list-style-type: none"> <li>i) recognising the rights of the local communities and indigenous people;</li> <li>ii) broad participation in the decision-making process;</li> <li>iii) clear definition and recognition of responsibilities and rights in the federated states;</li> <li>iv) clear definition and recognition of responsibilities and rights in the federal state</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Clarification, commitment and involvement of the main stakeholders, despite the multiple intervention levels (federal, regional and local) and the variety of actors</li> <li>• Integration and coherence of actions, objectives and resources contributing to the sustainable management of the Lake Chad basin.</li> <li>• Formulation of binding rules of the control and surveillance of the use of water resources</li> </ul>
<p><b>Chad</b></p>	<p>Restoration and protection of the vegetation as well as the natural environment of Lake Chad</p>	<p>Effective implementation of activities for reforestation, the ban on logging and poaching.</p>	<p>Conservation of the natural space of Lake Chad's tributary watercourses is now considered as an imperative by public authorities and the population.</p>

## 4. SUMMARY OF CONCLUSIONS FROM THE NATIONAL AUDITS

Upon conclusion of the audit work in the four riparian countries of Lake Chad, the joint auditing team has set out the following main conclusions for each country.

### 4.1. In Cameroon

1 The institutional framework for managing water resources is inoperative in the Cameroon section of the Lake Chad basin, as a result of the following:

- MINEPAT has not ensured sufficient coordination of interventions from the ministries and organizations concerned, or the complementarity of their respective actions in order to maximize impact on the quantity and protection of water in the Cameroon section of the Lake Chad basin;
- there is an absence of systematic procedures to request and take into consideration technical contributions and advice from ministries involved in the transboundary management of the water resources of the Lake Chad basin;
- MINEE has not gone to all the necessary efforts for the effective fulfilment of its mandate in relation to water resources management in the Lake Chad basin in Cameroon;
- the existing poor internal organization of ministries prevents them from ensuring the efficient monitoring of issues related to Lake Chad.

2 No formal strategy exists for being able to direct actions and interventions by ministries and other organizations in the management of resources of the Lake Chad basin in Cameroon, which is seen in:

- the lack of interministerial national strategy explaining how integrated water management should be taken into consideration in the Cameroon section of Lake Chad;
- the lack of sectoral strategy specific to each ministry for the management of the Cameroon section of Lake Chad;

3 The water user control measures in the Lake Chad basin are not only insufficient, but those that do exist are rarely implemented. In fact,

- MINEE does not carry out either the general control measures for the quantitative management of water resources, nor the specific measures for the Lake Chad basin area;
- MINEE and MINEPDED have not ensured the effectiveness of environmental assessments on water impoundments and intake constructions in the Cameroon section of the Lake Chad basin;

- there are inadequacies in the legislation in terms of the updating of environmental assessments;
- MINEE has not issued water withdrawal permits or authorizations to water users in the Cameroon section of the Lake Chad basin, as it is set out by the law on the Water Regime;
- the ministries concerned have not formulated or implemented any plan aiming at the occupation of land in a way that ensures the sustainable management of water resources in the Lake Chad area.

4 The water resources monitoring and surveillance framework has admittedly been expanded, but its effective implementation is still to be seen. Thus,

- MINEE and the Ministry of Scientific Research and Innovation (MINRESI) have not designed any water quantity monitoring and surveillance programme and do not carry out hydrometric surveys;
- because no water quantity monitoring programme exist, regular reports could not be formulated or transmitted regarding the real needs of users, the quantities withdrawn, the impact of these withdrawals on the resources and suggestions of possible remedial measures;
- for the lack of real, reliable and up-to-date data and information on the changes in water quantities, decisions made in relation to water resources management in the Lake Chad basin are not based on and do not consider at all the actual, observable elements in the field;
- because a water quantity surveillance programme has not been designed, MINEE and MINRESI are not able to either evaluate the quality of the monitoring, since it is not carried out, nor make any improvements.

5 Finally, the legislative and regulatory framework is on the whole complete, but only enforced to a small extent or not at all. In fact:

- during the audit period, the legal framework for protecting water resources was not being implemented in the Cameroon section of the Lake Chad basin;
- actions for raising awareness are insufficient and focused on the least important of the users, in particular the domestic use;
- MINEE and the other ministries concerned have not carried out any investigation or checks to be able to identify violations and to enforce the sanctions provided for.

## 4.2. In Niger

The main conclusions emerging from the audit work carried out in the context of the Niger section of the Lake Chad basin are as follows:

- Specific policy for water management in the Lake Chad basin is nonexistent, even though this issue is taken into account in the overall policy of water management;
- There is no effective monitoring system for the use of water resources in the Lake Chad basin;
- Regulations and standards in terms of the environment and the control of water resources of Lake Chad are not applied;
- Specific, functional structures for safeguarding water resources of the national section of Lake Chad are not operational or even absent.

## 4.3. In Nigeria

The auditors' conclusions are the following:

### i. Control

- The control of the use of water in the Lake Chad basin in Nigeria is inadequate and weak.
- Assessment of the environmental impacts of governmental policies and programs of water resource management in the Lake Chad basin is insufficient.

### ii. Monitoring

- Monitoring of the performance and effectiveness of water management in the Lake Chad basin is not appropriately done.
- Available water use data is grossly deficient and inadequate for appropriate decision-making in water management.

### iii. Enforcement

- Enforcement activities in the Lake Chad basin to ensure water regulations are complied with are weak and government shows no strong commitment to ensure effective enforcement of water use regulations in Lake Chad basin.



#### 4.4. In Chad

The audit have brought to light numerous shortcomings and gaps concerning important points, which lead to the drying up of Lake Chad and can be attributed to human activities. All the responsible ministries and organizations have a duty to overcome these shortcomings, in order to face the challenge of sustainable water use. These points are:

1. setting clear quotas for water use and allocating them to big users;
2. instituting and publishing the necessary legal and regulatory texts for ensuring that the system of protection and sustainable management of water resources is fully effective;
3. regulating, rationalizing and controlling withdrawals, especially with regard to polders;
4. the effectiveness of activities and structures for the monitoring and measuring of consumption and water withdrawal, particularly by providing sufficient human and material resources;
5. the effectiveness of controlling water use, especially the enforcement of texts and possible sanctions;
6. informing and involving citizens in the management and protection of water resources;
7. regular evaluation of initiatives introduced, on the basis of goals according to the SMART-approach (Specific, Measurable, Realistic Time limit).

## 5. SUMMARY OF RECOMMENDATIONS FROM THE NATIONAL AUDITS AND GOVERNMENT RESPONSES

The joint auditing team sets out the main recommendations below, upon conclusion of the work done in each of the four countries concerned:

### 5.1. In Cameroon

The auditing team has recommended that the ministries and public organizations:

- formulate and formalize a national water policy, which considers the Lake Chad basin and progress made in water resources management at LCBC level;
- establish a formal, coherent, and permanent interministerial coordination and consultation framework that focuses on water resources management and protection of the lake Chad basin, in order to unite, complete, and coordinate actions and interventions of the responsible ministries;
- establish a water resources surveillance programme throughout the country, including in the Cameroon area of the Lake Chad basin, which should take into account the needs of users, the risks to the sustainability of water resources and the necessity for improvement;
- tighten the hydrometric surveillance network, in accordance with the World Meteorological Organization (WMO) guidelines of 2008 for water surveillance networks;
- mobilize, redirect, and make available adequate logistical and human resources so as to ensure on an annual basis the effectiveness of investigations and checks on big users, so that violations can be ascertained and damage to water resources in the Cameroon section of the Lake Chad can be repaired.

The two main responsible ministries, MINEPAT and MINEE, have accepted all the conclusions, findings and recommendations of the auditing team of the Supreme State Audit services (SAI of Cameroon). They have planned, on the short term, to establish a common planning and monitoring framework for these recommendations, which must necessarily involve all the ministries, organizations and other actors. The SAI will ensure the periodic evaluation of the measures that must be implemented.

### 5.2. In Niger

The auditing team makes the following recommendations, aimed at all the ministries and organizations involved in the water resources management of Lake Chad in Niger:

- to ratify and enforce the Water Charter of the LCBC;

- to establish a legal framework specifically for Lake Chad, with the completion of the National Action Plan for Integrated Water Resources Management (NAP-IWRM);
- the effective establishment of coordination mechanisms between the various bodies in charge of water resources management in Niger;
- enhancing information campaigns aimed at water users and popularizing the applicable regulations;
- improving the average flow of the Niger section of Lake Chad;
- strengthening the capacity (technical, material and financial) of structures for monitoring, collecting and transmitting data on Lake Chad and controlling the use of water resources;
- to effectively implement water use control measures, such as prior authorizations for water withdrawal;
- to produce and publish timely and reliable reports on the use of water resources by decentralized departments;
- enforcing the sanctions provided for by regulations inherent to the protection of natural resources in the Niger section of Lake Chad;
- the tightening and renovation of the water resources monitoring and observations network of Lake Chad in Niger and the effective evaluation of the efficiency and quality of the water use surveillance system;
- the general implementation in the Niger section of the lake of the support and advisory function by all the decentralized technical services concerned with water management;
- the general implementation of a Regional Spatial Development Scheme (RSDS) and a Urban Planning and Development Scheme (UPDS) in the Niger section of Lake Chad;
- developing a surveillance programme specifically for the Lake Chad basin at national level;
- developing implementing legislation on water-related fees and taxes;
- establishing an actual programme for raising awareness on natural resources management in the Niger section of the Lake Chad basin.

### 5.3. In Nigeria

The auditors make the following recommendations regarding the control, surveillance and enforcement of regulations for water resources of the Lake Chad basin within the Nigerian section.

## **i. Control**

- The FMWR should establish a water allocation strategy as the basis of issuing licenses or permits for the abstraction of water in the basin and applicable to all levels of government. The expected impact is to ensure that FMWR controls water quantity in the Lake Chad basin.
- The FMWR should revise its organizational structure to show direct link between state ministries and other water bodies. This will enhance the effectiveness of institutions for water use control and reduce the overlap of roles and responsibilities.
- The FMWR and States MDAs in-charge of water resources should ensure that all major water projects like dams, irrigation etc. conduct EIA before the start of the projects. There should be no approval or permit given to water projects without complying with the conduct of EIA. Environmental audit should be conducted on existing water projects without EIA to mitigate the adverse effect on environment due to water use.
- The MDAs at States/LGAs levels should put in place control measures like establishing boundaries and designate areas as protected areas with punitive consequences for any encroachments. This will control encroachment and restrict human activities in protected area.
- The State Water Agencies should build embankment to close up some large openings along the river system causing flooding and impeding free flow of water in the Lake Chad basin. This will ensure that quantity of available water in the Lake Chad basin is optimally used for intended agricultural/domestic purposes and quick recovering of the Lake Chad.
- The RBDAs and the State Water Agencies should put in place systems to ensure regular de-siltation and rehabilitation of water conveyance and irrigation structures in the Lake Chad basin. The channel irrigation system should be replaced by the drip/ piping irrigation system as a way to avert the Typha Weed invasions of the weak rivers and irrigation channels. This will ensure water released from dams and rivers are optimally utilized for agricultural, domestic and industrial uses.
- The FMWR should increase support both technically and financially to the HJKYB-TF through its membership of the HJKYB-TF Coordinating Committee. This is to ensure effective coordination of the key stakeholders responsible for water use control measures through the intergovernmental/interdepartmental committee.

## **ii. Monitoring**

- The FMWR and states' MDAs should establish practices to evaluate the effectiveness and quality of the water use monitoring system and to ensure improvement of this system over time.

- The FMWR should ensure that there are enough data and information systems in place that allows the ministry to identify the possible points of intervention in the water resource management. Water-use-data generated at local levels should be properly coordinated and shared all through the State Ministries of Water Resources (SMWR) to FMWR.
- The FMWR and States' MDAs should ensure that awareness campaign are well planned and to use appropriate communication channels to reach the target audience. This will create effective awareness on the adverse effects of uncontrolled water use in risk areas and target groups.
- The FMWR and states' MDAs should ensure that established targets related to water resources monitoring are attained at different levels of the water use in Nigeria.
- The FMWR should clearly define monitoring roles and responsibilities to a variety of water regulators to ensure compliance with water use quota based on water allocation strategies.

### iii. Enforcement

- The FMWR and States' MDAs should establish enforcement mechanism that will allow water regulations and policies to accommodate the integrated Water Resource Management (IWRM) principles. The principles require coordination of all stakeholders in water management in a bottom-up approach.
- The FMWR and States' MDAs should put in place concrete actions including fines and penalties for people and companies who unlawfully draw water and degrade the environment. The fines and penalties should be executed to act as deterrent. Also, the cost of fines and penalties applied should consider the environmental damage issues, in the way that offenders are required to pay for environmental restoration costs, that is, the "polluter pays principle" is enforced.
- The Federal and the State governments should establish proper enforcement coordination among ministries, departments, agencies responsible for enforcement and other stakeholders in water management.
- The Federal and State ministries of water resources should establish mechanism that will enable regular inspection and patrol to ensure compliance with laws, regulations and standards on water use, and
- The FMWR and SMWR should put in place enforcement programs and periodically evaluate them to determine effective performance of such programs in ensuring compliance in the basin.

Comments by the Ministries, Departments and Agencies to the audit are included in the national audit report of Nigeria

## 5.4. In Chad

The auditing team has made several recommendations to the ministries in charge of the issues of Lake Chad, for the purpose of significant improvement of the current situation in Chad. Thus, the MRUH and other ministries involved should:

- inform the enforcement services and big water users in the basin region of the precise content of the laws and provide them with its interpretation;
- create and implement a policy for communication with users, taking their needs or constraints into account, in order to inform them of the rights and obligations resulting from the implementation of the law, especially with regard to environmental assessments;
- work to formulate and enact complementary implementing legislation to the law, in order to make more effective enforcement possible;
- carry out a systematic assessment of the awareness campaigns undertaken, to compare the results achieved with the goals set, in order to establish its impact;
- develop and ensure the effectiveness of legal and regulatory measures to ensure compliance with the water withdrawal quotas laid down by the Water Charter of the Lake Chad basin;
- develop and carry out regular evaluation of control measures for water withdrawal in the Lake Chad basin, as it is provided for in Chad's Water Code, such as the issuing of permits for water use;
- make sure that adequate resources are allocated each year and that opinions are acquired for the regional public services to allow them to effectively fulfil their mission regarding the control of water use;
- evaluate the application of the Water Code and, if necessary, consider its amendment, in consideration of changes in the current usages or use of water and of modern principles for the sustainable management of this commodity;
- promote and strengthen the ongoing cooperation between the different government agencies of Chad and with the other riparian states of Lake Chad.









## CHAPTER 3 THE LAKE CHAD BASIN COMMISSION

# CHAPTER 3

## THE LAKE CHAD BASIN COMMISSION

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### 1. Sallient points

#### 1.1. What did we audit?

The joint auditing team have evaluated the systems, practices and actions developed by the LCBC within its mandate for the purpose of ensuring the sustainable management and protection of water resources of the basin. In particular, the audit sought to determine the extent to which the LCBC:

- have fulfilled its roles and responsibilities in this matter and;
- evaluate and ensure the monitoring of the performance of Member States in the implementation of various measures aiming to control the use of water resources in the Lake Chad basin.

Evaluation was undertaken of the strategies, mandate, and capabilities of the LCBC to ensure the sustainable management of water resources of the Lake Chad basin as well as the viability of its initiatives.

#### 1.2. Why is this important?

The evaluation of LCBC initiatives relating to the sustainable management of water resources in the Lake Chad basin has proven to be necessary in view of the increased tendency towards continued degradation, over the past four decades, of natural resources in the basin, including water resources. At the same time, on the initiative of the riparian states or at the instigation of the LCBC Executive Secretariat, a mass of programmes, projects and actions have involved considerable funding and all of the actors, but without any significant impact seen in water resources, a central element of the Lake Chad basin. On the contrary, Lake Chad has seen growing drying up and shrinking.

Water does however have the status of a public good in the Member States of the LCBC. Water resources, like other natural resources, are enshrined in the laws in effect in these countries, as a common national heritage that is managed by the state. In the context of the shared water resources of Lake Chad and its basin, the states have added the LCBC to those national bodies in charge of problem-solving. Through this, the Member States have raised the expectations of the respective populations of these countries and of all other stakeholders to see the sustainable development of the basin and sustainable management of its water resources. It has proven to be necessary, in order to ensure accountability, detecting shortcomings and providing restorative solutions regarding this matter, for an evaluation to be carried out by the Supreme Audit Institutions (SAIs) on their role in public finance management.

### 1.3. What did we do?

The members of the joint auditing team from the four SAls involved in the audit, have established an audit logic matrix through the audit planning, according to which the following points had to be reviewed:

- the overall development plan of the Lake Chad basin;
- the existence and enforcement of standardised regulations;
- the implementation of agreements on water resources management;
- the regulation of water withdrawal by the partner states;
- the existence and effectiveness of the monitoring system of the lake Chad basin;
- the existence of a functioning data base on the Lake Chad basin;
- information sharing;
- the capacity of the LCBC;
- the partner states' contributions to the LCBC.

Subsequently, the joint auditing team:

- went to the headquarters of the LCBC's Executive Secretariat from 08 to 15 September 2013;
- conducted interviews with officials of the LCBC's Executive Secretariat;
- gathered and proceeded with the analysis of documents provided, against pre-defined evaluation criteria and the findings for each of the riparian countries;
- reviewed the findings and conclusions that came from the analyses and,
- made recommendations for improved impact.

### 1.4. What did we find?

At the end of the audit process, the following main conclusions have been identified:

1. The strategic planning for the development of the Lake Chad basin does not allow for a proper connection between the actions and needs of the riparian countries on local, national and regional level, and the objectives set by the basin organization – the LCBC.
2. The LCBC does not entirely fulfil its purpose as transboundary basin organization, in particular with regard to the equitable management of water, the development of the basin and the enforcement of rules for the protection of water resources, for lack of a clear and specific mandate to do so and of the appropriate organization of the Executive Secretariat's departments.

3. The LCBC does not ensure the collection, processing, distribution and archiving of data relating to the evolution and use of water resources in the Lake Chad basin, for lack of the appropriate procedures and logistics and of sufficient commitment from the states to contribute to this.
4. The LCBC does not sufficiently direct its financial, human and logistical resources towards effective actions of sustainable management and protection of water resources of the Lake Chad basin.
5. The LCBC's funding model is not sustainable, as it only relies on the contributions of the Member States and support from donors – financing sources that are limited, temporary, and difficult to mobilize. The performance of water resources management activities in the basin and of Executive Secretariat operations is therefore seriously threatened.

## 2. DETAILED OBSERVATIONS

### 2.1. Strategic and operational planning of actions aimed at the sustainable management of water resources of the Lake Chad basin

2.1.1. The strategic development planning of the Lake Chad basin does not sufficiently link the actions and needs of the riparian countries at local, national and regional level with the objectives set by the basin organization – the LCBC. In addition, the Executive Secretariat does not account for its performance in relation to the strategic objectives of the LCBC.

As for any transboundary basin organization, it is the responsibility of the LCBC to ensure strategic planning for the development of the transboundary Basin and the protection of water resources, and to coordinate programmes, actions and initiatives undertaken in the Lake Chad basin that could affect the sustainable management of water resources. This requirement is among the good practices popularized by the International Network of Basin Organizations (INBO) in the **“Handbook for integrated water resources management in basins”** and the **“Handbook for integrated management of water resources in transboundary basins of rivers, lakes and aquifers”**, published in 2012. The LCBC’s fulfilment of this responsibility depends in particular on the development, adoption and implementation of a vision and overall planning documents to allow the development of the Lake Chad basin in a way that considers the need to ensure the sustainable use of water resources and that complies with the institutional and legal frameworks of the basin. These elements of planning should also be updated regularly in order to adapt them to the institutional and natural changes in the basin.

### 2.1.2 An existing Strategic Action Programme

After having completed the interviews with the main officials of the LCBC and the document analysis, the joint auditing team noted that this basin organization has developed the Vision 2025 for the sustainable development of Lake Chad, as well as a Strategic Action Programme (SAP) covering a period of fifteen years. The overall objective of the SAP is to help reduce poverty in the lake’s basin and aims more specifically to improve food security and living conditions of the people living in the Lake Chad basin through the proper management of the basin resources. In this way, some of the expected results of the SAP include in particular the sustainable management of natural resources and the enhancement of biodiversity potential offered by the Lake Chad basin, rational management and improvement of water resources quality (surface and groundwater) and the promotion of sustainable development initiatives in the basin.



### Box 3: The Strategic Action Programme of the LCBC

The Strategic Action Programme (SAP) for developing the Lake Chad basin was prepared as part of the LCBC/GEF project “Reversal of Land and Water Degradation Trends in the Lake Chad Basin Ecosystem”, jointly carried out by the UNDP and the World Bank. It is the final output of a regional consultation process that involved the Member States of the conventional basin of Lake Chad, the Lake Chad Basin Commission and the international partners, with the active involvement of scientific expertise of various NGOs in the region.

The SAP mainly addresses seven priority regional environmental concerns identified in the Transboundary Diagnostic Analysis (TDA), namely the variability of hydrological regime and fresh water availability, water pollution, decreased viability of biological resources, loss of biodiversity, loss and modification of ecosystems, sedimentation in rivers and water bodies, and invasive species.

The SAP establishes the principles of environmental management and co-operation; sets out a long-term vision for the sustainable development of the Lake Chad basin; notes the challenges to the integrated and sustainable management of the Lake Chad basin; sets out regionally agreed Ecosystem Quality and Water Resources Objectives (EQWRO) and its indicators for priority areas and transboundary environmental problems; and defines a set of targets and interventions to meet these objectives.

The priority transboundary problems in the Lake Chad basin can be most effectively and appropriately addressed through the following five objectives:

- Improving water quantity and quality in the Lake Chad basin;
- Restoration, conservation and sustainable use of bio-resources in the Lake Chad basin;
- Conservation of the biodiversity in the Lake Chad basin;
- Restoration and conservation of ecosystems in the Lake Chad basin;
- Reinforcement of stakeholder participation and capacity and of the legal and institutional framework for the sustainable environmental management of the Lake Chad basin.

The SAP is a regional policy framework document. The Member States have identified a long-term vision for the Lake Chad basin, which is a clear representation of the desired characteristics for the future environment. The long-term vision is a political objective to be achieved over fifteen years, and is intended to inspire the populations of the Lake Chad basin and their leaders. The implementation of the SAP will be the responsibility of the member countries independently as a component of their Nation Action Plans (NAP), and

collectively as part of the mandate of the Lake Chad Basin Commission.

The SAP is completed by the NAPs and clearly identifies the targets and interventions aiming to identify the priority investment actions for which funding should be sought.

The auditors have however noticed that, regarding the SAP, the strategic planning that is done does not make the connection between the actions to be implemented across the basin, and the development objectives, policies and the regional and national planning processes of each of the riparian countries of Lake Chad. In fact, this important strategy document was elaborated without taking into account the existing national strategies in the member countries that have acquired it.

In addition, this SAP is not flexible and has not been adapted to new information available and to the changing circumstances that have affected the Lake Chad basin since it has been adopted in 2008.

These shortcomings, which make it difficult to achieve the objectives of protection and sustainable use of water resources of Lake Chad, results from the following main causes:

- the rational management and protection of water resources of the basin are not central to the SAP, since these imperatives were considered as a result that might stem from the other priorities identified;
- the SAP has not clearly identified options for managing the Lake Chad basin so that the necessary actions can be determined, and the appropriate actions targeted at each level of management: at local level, for the small and big users of water resources, at sub-basin level of each country, where cross-cutting issues require a broader management framework; at the transboundary level of the basin, where the LCBC and the responsible ministries or other national organizations will have to apply more comprehensive measures of management and protection of water resources;
- the SAP is not accompanied by a framework and procedures for the evaluation of its implementation, comprising criteria for measuring the effectiveness and actual impact of the actions undertaken in the Lake Chad basin.

The execution of the SAP is planned over three five-year programmes. The five-year plan that is currently in progress (2013-2017) includes an investment plan and budget for this period. It plans various initiatives and activities of the LCBC Executive Secretariat, performed as part of programmes such as the Sustainable Development Programme of the Lake Chad Basin (PRODEBALT). Generally speaking, this long-term strategy implementation document specifies the short-term goals, objectives and activities (over 5 years) and details the resources necessary for the implementation

of the action plan as well as the financing sources. Finally, this document states how regulations will be enforced under current legislation, through the Lake Chad Basin Charter.

### 2.1.3 Numerous shortcomings in planning

With regard to the five-year plans, the joint auditing team has, however, found that the one that is currently in progress does not specify how the planned activities will be coordinated. Moreover, it does not provide any details about cost-sharing mechanisms, nor does it explain how the stakeholders, at all levels of management, will be kept informed of the results.

The main causes for these significant weaknesses are the following:

- the five-year plans developed by the Executive Secretariat are more of a list of intended projects, without any details on the responsibilities, cost-sharing arrangements, accountability, or the means for exchanging and distributing information regarding its implementation;
- the five-year plans of the LCBC are not accompanied by procedures put in place to identify, select and implement the natural resources management options that are best suited to the Lake Chad basin, with even fewer iterative procedures for adapting to changes in the basin.

These weaknesses observed concerning the Strategic Action Programme and the five-year plans for the implementation of the strategy have the following consequences:

- the activities undertaken as part of the SAP are similar or synchronous, and does not help facilitate the achievement of significant impact, to enable the sustainable management of water resources in each country, notwithstanding their respective particularities;
- the roles and responsibilities of the Member States in the execution of the SAP and the five-year plans are not clearly defined or allocated so as to identify the essential actions for the sustainable management and protection of water resources into which interventions, initiatives and actions of the states in their respective territories can be integrated.

The auditors concluded that the strategic planning in the Lake Chad basin has been inadequate and did not allow for a framework to ensure the promotion of sustainable management and protection of water resources in this basin.

These gaps, resulting from the institutional vagueness of the LCBC and a lack of initiative from the Executive Secretariat, cause programmes and activities to be performed without consideration of the actual changes in economical, socio-political, institutional and climate conditions in the Lake Chad basin.



In addition, some of the implemented good practices (the building of schools, medical centres, planting forests, etc.), are duplicated and do not have a significant effect or impact on the sustainable management of basin resources – especially water resources, because of the area of their establishment and the lack of coherence with similar initiatives of the responsible ministries and organizations in the Member States. There is also the risk of these actions not being sustained, because of the lack of communication with the Member States.

#### 2.1.4 The lack of evaluation of the Executive Secretariat's performance

Finally, after processing the administrative documents submitted to the decision-making bodies of the LCBC, the joint auditing team has found that the Executive Secretariat of the LCBC, in spite of the implementation of the Strategic Action Programme, five-year plans and National Action Plans, does not account for its performance. In fact, no annual performance report of the Executive Secretariat is produced that could make it possible to monitor and evaluate the impact of actions and activities undertaken by the LCBC, particularly in respect of basin development objectives and the sustainable management of water resources. Instead of such reports, the Executive Secretariat only supplies annual activity reports to the decision-making bodies, which does not make it possible to evaluate the extent to which strategic objectives have been achieved or therefore to reframe the strategic and operational planning for the remaining years.

This shortfall mainly results from the gaps in the mandates of the LCBC and its main bodies and failure to adjust it to the modern management practices of basin organizations. This then leads to activities being performed by the LCBC without effective monitoring or an evaluation mechanism to ensure that the activities carried out will enable the achievement of general goals set by the SAP, especially for the protection and sustainable management of water resources in the Lake Chad basin.

#### ► **Recommendations**

In the light of the above, the Summit of Heads of State, the Council of Ministers and the Executive Secretariat of the LCBC should update the strategic documents of the LCBC so as to align it with all the local, national and regional initiatives, striving towards the central objective of sustainable management and protection of the water resources in the Lake Chad basin.

In addition, the Council of Ministers should see to the annual evaluation of the performance of the LCBC's Executive Secretariat in relation to its Strategic Action Programme, its five-year plans and National Action Plans. In this regard, the Executive Secretariat can follow best management practices based on results (RBM), such as annual performance reports, to regularly account for its performance.

Opinion of the LCBC's Executive Secretariat. The executive body of the LCBC accepts the recommendations made.

## 2.2. Mandate and missions of the LCBC in water resources management of Lake Chad

***The LCBC does not entirely fulfil its purpose as transboundary basin organization, in particular with regard to the equitable management of water, the development of the basin, and the enforcement of rules for the protection of water resources, for lack of a clear and precise mandate to do so, and of the appropriate organization of the Executive Secretariat's departments.***

The implementation of transboundary strategies for sustainable water resources management requires that the organization in charge of this implementation should have a clear and precise mandate. In fact, as the main actor in water issues in the basin, the basin organizations must, in accordance with the good practices of the Handbook for Integrated Water Resources Management in Basins, ensure the effective and efficient coordination of basin management.

In this regard, all forms of basin organizations (official decision-making bodies and/or advisory bodies, managing bodies, development entities or regulatory bodies) should have a mandate that is specific, defined at the highest level, reflects the critical problems in the basin and has a clear definition of their roles and its limitations, including clarification on their powers, decision-making rules, and reporting or institutional relationships to other components of the basin community. These factors are necessary for giving full authority, legality and effectiveness to the initiatives undertaken and must enable the basin organizations to have an overview of and to plan consistent strategies.

From the above, it is particularly expected that the legal instruments of the LCBC (convention and statutes) should take into account the critical changes and the evolution of the Lake Chad basin in fifteen years and clearly formulate the mission, nature, and mandate of this organization, from which its vision, strategies and actions, as well as its structure will then follow.

The joint auditing team has on the contrary revealed that, without a clear and precise mandate, the strategies developed by the LCBC are not consistent with its principal role – that of a basin organization, which is to primarily ensure the sustainable management and protection of water resources of the Lake Chad basin. In fact, the current mandate of the LCBC does not reflect the expectations, needs, changes or major challenges that have occurred in the Lake Chad basin since the organization was established in 1964, nor does it incorporate the current best practices for the management of transboundary basins by basin organizations established for that purpose.

**Box 4: The mandate of the LCBC**

(An extract from the Statutes of the LCBC annexed to the Fort Lamy Convention of 22 May 1964)

**Article IX:** The Commission will have the following powers:

- a. To share common regulations, enabling the full application of the principles set forth in this Statute and in the Convention to which it is annexed, and ensuring its effective enforcement;
- b. To gather, review and distribute information on projects prepared by the Member States and to recommend a timetable for common work and joint research programmes in the Lake Chad basin;
- c. To maintain liaison between the High Contracting Parties with a view to achieve the most efficient use of water in the basin;
- d. To monitor studies and work conducted in the Lake Chad basin concerning this Convention, and to keep the Member States informed at least once a year, by processing the systematic and periodic reports that each state has to send to the Commission;
- e. To formulate common regulations regarding navigation;
- f. To establish regulations regarding its personnel and ensure that they are implemented;
- g. To investigate complaints and assist in settling disputes;
- h. To ensure the application of the provision of this Statute and the Convention to which it is annexed.

The auditors have also found that, as a result of this lack of clarity, precision and adaptation of the LCBC mandate, the Executive Secretariat of this organization has not developed an adequate structure, focused on the effective development of the Lake Chad basin, with the sustainable management and protection of water resources as its centre.

**Table 20: Functions of the LCBC compared to those usually carried out by basin organizations**

Main functions of basin organizations	Role assigned to the LCBC by the Convention and the Statutes to fulfil this function	Observations (shortcomings regarding this in the Lake Chad basin)
<p><b>Monitoring, investigation and regulation</b></p> <ul style="list-style-type: none"> <li>• Collect data</li> <li>• Prevention, supervision and enforcing regulations</li> <li>• Coordination</li> <li>• Resolve conflict</li> </ul>	<ul style="list-style-type: none"> <li>• sharing common regulations, enabling the full application of the principles set forth in this Statute and the Convention</li> <li>• maintaining liaison between the High Contracting parties with a view to achieve the most efficient use of water in the basin</li> <li>• investigate complaints and assist in settling disputes</li> </ul>	<p>The collection of data on water resources is not one of the duties given to the Executive Secretariat of the LCBC. This function is not assumed under the SAP either.</p> <p>The LCBC does not enforce the common or internal regulations in the Member States and has not planned any activity in the SAP for resolving conflict.</p>
<p><b>Planning and funding</b></p> <ul style="list-style-type: none"> <li>• Allocation of water</li> <li>• Long-term water resources management and development planning in basins</li> <li>• Mobilising financial resources</li> </ul>	<p style="text-align: center;">None</p>	<p>The LCBC does not ensure the allocation of water, in spite of the existing Water Charter of the Lake Chad basin. It has not formulated any plans for the development and coordination of water resources management.</p>
<p><b>Development and management</b></p> <ul style="list-style-type: none"> <li>• Construction of facilities</li> <li>• Maintenance of facilities</li> <li>• Management of water resources and infrastructure</li> <li>• Preventing water-related disasters</li> <li>• Protection and conservation of water resources</li> </ul>	<p>Monitor studies and work conducted in the Lake Chad basin</p>	<p>The LCBC does not ensure the allocation of water, in spite of the existing Water Charter of the Lake Chad basin. It has not formulated any plans for the development and coordination of water resources management. basin.</p>

The following are the main causes of the gaps identified above:

The Convention and the Statutes of the LCBC are not adapted according to the needs and challenges of the Lake Chad basin. On the one hand, the Fort Lamy Convention does not provide any significant rule for the management of watercourses of the basin, or any rule on the protection of natural resources of the basin against harmful situations and dangers. On the other hand, this legal framework lacks clarity and precision regarding:

- the mandate of the LCBC when it comes to the management and protection of natural resources of the Lake Chad basin, particularly its role, functions, methods of intervention and therefore the extent of its powers. This makes it difficult to determine whether the LCBC is a “basin organization”, mainly in charge of regulation above the Member States, a “projects agency”, identifying and implementing projects on behalf of the Member States, or an “implementing body” available to the states;
- the rights and obligations of the Member States regarding the management of basin resources.

What's more, the Convention and its Statutes set out contradictory rules on the management of water resources of the basin without any reserve. In fact, Article 5 of the Statutes provides for the only procedural rule to which the states are subject regarding the management of water resources, which requires of the states to give prior notice in the event of measures or intended investments on watercourses of the basin. On the basis of this rule, the Member States have undertaken in particular not to carry out, in the section of the basin that falls under their jurisdiction, any water-related or land development efforts that might significantly affect the water regime and groundwater in the basin, without sufficient notice or prior consultation with the Commission. This obligation, that is conducive to the equitable and sustainable management of water resources, is however foiled by the provisions of Article 3 of the Statutes, according to which the management of Lake Chad is based on the sovereignty of the states.

Furthermore, the Executive Secretariat of the LCBC, responsible among other duties for conducting studies and foundational work in the basin and informing the Member States, have not carried out the necessary efforts to let the decision-making bodies consider the possibility of reforming the mandate of the LCBC and the prerogatives of the Executive Secretariat. It would thus have been expected of the Executive Secretariat to formulate and submit the appropriate proposals to the Council of Ministers and the Summit of Heads of State, to ensure the reform of the current mandate of the LCBC and its alignment with the current issues and dangers threatening the Lake Chad basin.

Finally, the numerous changes in the LCBC's identified priorities and the modifications in the structure of the Secretariat-General, with little effect on sustainable resources management in the Lake Chad basin, have caused instability in the organization and play a role in significantly slowing down the major initiatives that could be undertaken by its Executive Secretariat for the sustainable management of water resources in the Lake Chad basin.

**Table 21: Evolution of the LCBC's role and objectives and institutional changes of the Executive Secretariat**

Period	Evolution of the LCBC's role and objectives	Major actions undertaken	Structural changes
From establishment until 1990	<p><b>Role:</b> Body for coordination and the promotion of cooperation</p> <p><b>Objectives:</b> coordinating activities undertaken by the states, more specifically in view of the utilisation of water resources – both surface water and groundwater – of the basin. This supervision also includes the collection of products of flora and fauna</p>	<p>Studies conducted to gain knowledge of water resources to:</p> <ul style="list-style-type: none"> <li>assist in solving practical problems of irrigation or water supply to populations and cattle.</li> </ul> <p>The following have thus been conducted:</p> <ul style="list-style-type: none"> <li>the study on "Monitoring and Management of Groundwater Resources in the Lake Chad Basin";</li> <li>"The Management of Groundwater in the Chari-Logone Formations for the Sustainable Development of the Lake Chad Basin";</li> <li>in the long-term, lead to the introduction of management instruments. This is covered in the study "Planning and Management of Water Resources in the Lake Chad Basin"</li> </ul>	None
After 1990	The same roles and objectives.	<p><b>Planning and management of water resources in the Lake Chad Basin</b>, with the general objective of improving knowledge of water resources in the basin and establishing within the LCBC a rational water resources management tool.</p> <p>The intended management tool focused mainly on the collection, processing, and distribution of background data on the Lake Chad basin, with no lasting results or actual impact on the effective water management in the basin.</p>	None

<p>Since 2000</p>	<p>Same role and objectives.</p> <p>However, the development of structures within the Executive Secretariat, strongly supported by exterior funding, helps the structures to focus on water issues.</p>	<p><b>The LCBC plans to introduce a IWRM programme in the Lake Chad basin.</b> It does however not acquire legal and structural capacities consistent with the IWRM principles.</p>	<p><b>2000:</b> Creation of the Technical Committee of the LCBC (TC), comprising specialists from the member countries and put in place to contribute to the harmonization of water resources management in the basin. It has rarely held meetings.</p> <p><b>2000:</b> Creation of an Interministerial Technical Committee (ITC) consisting of experts from the Member States for the purpose of distributing information regarding the activities of the LCBC to the different administrative levels (from local to national). Its actual impact is to a lesser extent.</p> <p><b>2004:</b> Creation of the Regional Parliamentary Committee of the Lake Chad basin (RPCLCB) with the mandate of ensuring the monitoring of contributions paid by the member countries to the LCBC budget and assisting the LCBC in obtaining funds for the execution of its projects.</p> <p><b>2005:</b> Launch of the institution-building project called "Lake Chad Sustainable Water Management and Institution Building" for adapting the structures and functions of the LCBC to the changing challenges of the Lake Chad basin.</p> <p><b>2008:</b> Following the LaRoche cabinet consultation report, the LCBC Executive Secretariat was reorganized, with three structures created for addressing water issues: the Directorate of Water Resources and Environment, the Basin Observatory and the Directorate for Capacity Building, Information and Data Monitoring (See the organizational chart of the LCBC Executive Secretariat in Annex No 3. There is however not a precise distribution of prerogatives or working platforms between these internal structures of the Executive Secretariat.</p>
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The lack of clarity and consistency between the LCBC mandate and the strategies developed, for which the Executive Secretariat is responsible, leads to the following:

- weak visibility or a complete lack of visibility of the actions and programmes determined by the strategies of the LCBC: because of the ambiguity surrounding its potential to develop, plan, finance and carry out development projects that are in line with the objective of protecting natural resources, including water resources, the LCBC has mainly been targeting costly activities of scientific and intellectual productions (studies, investigations, etc.) with little or no impact on the reality of the continuous drying up of Lake Chad, which does little to strengthen its credibility with the populations living in the Lake Chad basin. The Executive Secretariat has also invested more in programmes that do not fall within its mandate or its role as basin organization, namely the fight against poverty, and the fight against diseases (AIDS), having zero impact on the reversal of the tendency towards the drying up of Lake Chad. These activities, which fall within the jurisdiction of the states, have played a role in the dispersion of the financial and human capacities of the LCBC, distancing them from the central objective of protecting the water resources in the basin.
- Vagueness and incomprehension around the definition and distribution of roles, responsibilities and powers between the LCBC and the riparian countries of Lake Chad regarding the development of the basin area and the protection of its water resources: a strong trend of taking little interest and giving low priority to the issues of Lake Chad has thus developed within the responsible ministries and public organizations in the riparian countries, based on a false belief in the general competence of the LCBC as being exclusively responsible for projects and initiatives in these areas of their respective countries, both in the field of socio-economic development and of the effective protection of water resources. These ministries and public organizations then do not fulfil their responsibilities in determining quotas and controlling the use of water, surveillance of water levels in the watercourses of the basin, encouraging the establishment of good practices in water management, etc. At the same time, for lack of an adequate mandate, the LCBC does not carry out major basin planning and investment projects, nor is it committed to the effective protection of water resources. This then plays a role in the continuing of harmful practices to the rational and sustainable use of these resources.

The joint auditing team concludes that the gaps and vagueness in strategic instruments (the SAP and its derivatives) and the LCBC mandate have not allowed this permanent interstate cooperation organization for the management of the international lake, to carry out its primary responsibility of promoting the sustainable management of this shared ecosystem. In addition, if this should continue, the LCBC will be prevented from ensuring, when appropriate, the full enforcement of the Water Charter of the Lake Chad basin, which gives it significant power with the states.



## ► Recommendations

The Summit of Heads of State and the Council of Ministers should update and clarify the mandate, nature, and structures of the LCBC, so as to give to it all the functions associated with functioning Basin Organizations, in order to implement good practices of integrated water resources management in the Lake Chad basin.

In addition, the Executive Secretariat should, in conjunction with the decision-making bodies of the LCBC, do the necessary work to revise the legal frameworks and reform the mandate of this organization to align it with the Basin Water Charter and the actual changes in water resources and the entire socio-economic environment of the Lake Chad basin. As an example of a good practice, the case of the International Commission of the Congo-Ubangi-Sangha Basin (CICOS) can be highlighted.

### Box 5: Evolution of the mandate of the River Basin Organization of Congo

Basin organizations, especially those in transboundary basins, often initially start out as “commissions”. They are often put in place to address one or two crucial problems rather than all problems relating to water, but this mandate can change over time.

For example, the International Commission of the Congo-Ubangi-Sangha Basin (CICOS) was founded by four riparian countries of the basin in 1999 (Cameroon, the Central African Republic, Congo and the Democratic Republic of Congo), with the initial aim of improving navigation and security of the Congo River. CICOS only really started to operate as a basin organization in 2004. The CICOS mandate has evolved and is today a lot broader than in the past, following the amendment of the original agreement in 2007. It now includes water resources management of the basins. The scope of the Commission is still likely to expand in the future to include other riparian countries.

The organization is currently developing water resources information systems and action plans and is strengthening its management capacity. It is possible that Angola, who is currently an observer country, as well as other riparian countries, might become members of CICOS in the future. Moreover, the Member States are currently in the process of setting up intermediary structures. In addition to the challenges of navigation, the Congo basin faces other major challenges, of which managing forest resources and developing infrastructures such as the Ubangi-Chad transfer and Inga dam.

Visit the website for more information: <http://www.cicos.info/siteweb>



Source : The Handbook for Integrated Water Resources Management in Basins, INBO, 2009.

The Executive Secretariat should also ensure:

- clarification and clear allocation of roles, responsibilities and powers between the basin organization (the LCBC) and the member countries through their responsible ministries and organizations, especially in planning, control, surveillance, and enforcement of national and regional regulations, for better management and protection of water resources of Lake Chad (in terms of water regulation, management, etc.);
- a better alignment of structures with the central objective of protecting natural resources of the Lake Chad basin, including water resources, which is also connected to other subsidiary objectives.

It should also carry out the evaluation of actions undertaken, regular updates of its Strategic Action Programme and take into consideration the ongoing development initiatives of the Member States in their respective territories, in order to increase its potential for achieving the expected results.

Opinion of the LCBC's Executive Secretariat. The Executive body of the LCBC accepts the recommendations made.

### 2.3. Regulation of water withdrawal

***In spite of adopting the Water Charter, the mechanisms and tools for regulating the withdrawal of water resources in the Lake Chad basin in each of the states are not functional. The riparian countries can therefore not observe the maximum levels for water withdrawal.***

Under the good practices of IWRM it is necessary for the basin organization to be able to regulate the withdrawal of water resources, including in particular the authorization and control of withdrawals, waste, and infrastructures that might alter the ecosystems and river flows. This requirement in the context of transboundary basins makes it possible for the riparian countries to play a role in the equitable, rational and reasonable use of water resources of the basin in each country. It also aims to enable each riparian country to derive optimal and sustainable benefits from the use of water resources that are compatible with the legitimate interests of every country and with the protection of water resources, aquifers and aquatic ecosystems in the transboundary drainage basin.

Regarding the Lake Chad basin, it would be reasonable to expect that the LCBC could put mechanisms and tools in place to determine the maximum levels for the withdrawal of water resources in each country in line with the sustainable management of these resources, and that they would ensure compliance with these levels. In this sense, **Chapter 2** and **Annexes 2** and **3** of the Water Charter adopted by the Member States in 2012 and which is in the process of being ratified, provide for maximum annual levels of water withdrawal for the all the states combined, which can be distributed between the countries according to their actual needs.

**Box 6: Water withdrawal levels for the Lake Chad basin as specified by the Water Charter**  
(Extracts from **Annex 3** on the environmental flows to be maintained)



**Article 3.3**

The establishment of low-water environmental flows can lead to water withdrawal being limited in a certain section of a watercourse and to the adoption of management practices for control structures respecting these flows. The States Parties undertake to determine these volumes on the basis of resource availability and in accordance with the Water Charter.

Key points are positioned at existing hydrometric stations to facilitate control over the flow rate. The environmental flows during low-water periods are as follows:

Measuring station	Watercourse	Country	Environmental low-water flows
Mundu	Logone	Chad	13 m <sup>3</sup> /s
Doba	Pendé	Chad	1 m <sup>3</sup> /s
Bongor	Logone	Chad-Cameroon	25 m <sup>3</sup> /s
Logone-Gana	Logone	Chad-Cameroon	12 m <sup>3</sup> /s
Manda	Bahr Sara	Chad	12 m <sup>3</sup> /s
Sahr	Chari	Chad	3 m <sup>3</sup> /s
Tarangara	Salamat	Chad	0 m <sup>3</sup> /s
Chagoua	Chari	Chad	12 m <sup>3</sup> /s
N'Djamena	Chari	Chad-Cameroon	22 m <sup>3</sup> /s
Diffa	Yobe	Niger-Nigeria	0 m <sup>3</sup> /s
Gashua	Burum Gana	Nigeria	12 m <sup>3</sup> /s
Gapchi	Komadugu-Gana	Nigeria	1 m <sup>3</sup> /s

### **Article 3.5**

In order to preserve the good condition of wetlands and their surface area, the States Parties undertake to maintain a minimum high-water flow at key points in the basin to ensure its inundation during high-water periods.

Maintaining the environmental flow depends on a natural flow of the watercourse that is higher than this flow, and can thus be called into question by the weather.

The establishment of high-water environmental flows can lead to the adoption of management practices for control structures respecting these flows. Key points are positioned at existing hydrometric stations to facilitate control over the flow rate. The environmental flows during high-water periods are as follows:

Measuring station	Watercourse	Country	Environmental high-water flows
Lai	Logone	Chad	1 900 m <sup>3</sup> /s
Eré	Logone	Chad	1 750 m <sup>3</sup> /s
Bongor	Logone	Chad-Cameroon	1 500 m <sup>3</sup> /s
Gashua	Burum Gana	Nigeria	80 m <sup>3</sup> /s
Dapchi	Komadugu-Gana	Nigeria	20 m <sup>3</sup> /s

The joint auditing team has established, after conducting interviews with LCBC officials, analysing documents and visiting sites in the riparian countries of Lake Chad, that despite the adoption of the Water Charter which specifies the national levels for the withdrawal of water resources in the Lake Chad basin in line with the demand for sustainability of these resources, mechanisms and tools for regulating withdrawals are not functional and does not enable the riparian countries to adhere to the withdrawal quotas provided.

On the one hand, this gap is caused by weak enforcement power of the LCBC over the Member States, since neither the Executive Secretariat – the permanent executive body, nor any other body of the LCBC has in this regard any enforcement

power over the member countries. On the other hand it is due to failure of the LCBC Executive Secretariat to assist in the development of a network for measuring water levels and analysing data collected. Added to this is the failure of every member state to provide the LCBC Executive Secretariat with accurate and comprehensive data on water resources withdrawal.

The LCBC's incapacity to regulate the use of water resources at regional level leads not only to the actual water withdrawal in each member country in the Lake Chad basin being uncontrolled, but also to uncertainty around the true impact of water withdrawals on the sustainability of water resources in the Lake Chad basin.

In the face of the absence of functional mechanisms to control and regulate withdrawals from water resources in Lake Chad, the joint auditing team concludes that the LCBC has not ensured the regulation of water withdrawals, leaving unevaluated risks that are detrimental to the sustainable and equitable management of water resources in the Lake Chad basin. These risks are significant and very real, at least for the users identified and listed in the table in **Annex 5**.

Consequently, because of its this failure, the Executive Secretariat of the LCBC has no control over users of water resources of the Lake Chad basin and is not prepared to ensure compliance with the rules that it has laid down in the Water Charter.

► **Recommendation**

The Executive Secretariat of the LCBC should direct its resources towards the operation of effective, modern, and adapted stations for measuring water flow, and build its staff capacity accordingly. In addition, it should take all the necessary effort to encourage the ratification of the Water Charter by all the Member States for the LCBC, so as to give it sufficient prerogatives for managing water withdrawals.

Opinion of the LCBC's Executive Secretariat. The executive body of the LCBC accepts the recommendations made.

**2.4. System of collection, storage, processing and sharing of data on water resources of the Lake Chad basin**

***The LCBC does not ensure the collection, processing, distribution and archiving of data relating to the evolution and use of water resources in the Lake Chad basin, for lack of the appropriate procedures and logistics and of sufficient commitment from the states to contribute to this. Therefore no reliable and consistent data is available on water resources in the Lake Chad basin.***

The Handbook for Integrated Water Resources Management in Basins requires, as part of the good practices identified, of basin organizations to fulfil the fundamental mission of monitoring, investigating, coordinating and regulating the management of water resources. This primary function involves in particular the need for such

organizations to assume responsibility for data collection and management. More specifically, it is their duty to gather, manage and distribute data on water resources availability, needs (including environmental needs) and water quality to support different basin functions.

In a transboundary context like that of Lake Chad, the basin organization must pay particular attention, among other things, to ensuring:

- the existence and optimal functioning of data processing programmes, consisting of hydrometric and rainfall data collection networks at local and national level, as well as of human and logistical capacities for analysis, synthesis, distribution and archiving at transboundary level;
- the clarification and allocation of roles and responsibilities in this regard between the states and the transboundary level of coordination;
- consensus between the states on the common content, format, and specifications for data transmitted as well as on the frequency of its transmission.

These expectations represent moreover the good practices recommended by the UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes.

**Box 7: Overview of the UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes**

The Convention on the protection and use of transboundary watercourses and international lakes (UNECE Water Convention) was adopted in Helsinki, Finland, on 17 March 1992. It came into force on 6 October 1996 and involved 38 Parties in August 2011.

The aim of this Convention is to strengthen environmentally sustainable measures for the protection and management of transboundary surface waters and groundwaters. It promotes a holistic approach to water management, taking into account the relationship between the hydrologic cycle, land, flora and fauna as well as their impact on socio-economic conditions.

The core obligations of the Convention include the obligation to prevent, control, and reduce transboundary impacts, like the significant adverse effects on the environment and their socio-economic implications, the obligation to ensure reasonable and equitable use of transboundary waters, and the obligation to cooperate in the use and management of such waters.

More specifically, the Convention includes two categories of obligations:

- the first, more general category that applies to all Parties, includes the authorization and monitoring of waste water discharges, the application



of best environmental practices to reduce pollution by nutrients and hazardous substances from agriculture and other sectors, introduction of environmental impact assessment, monitoring, development of emergency plans, definition of water quality objectives, and minimising of the risks of accidental pollution;

- the second obligation category is aimed at Parties sharing transboundary waters, called the Riparian Parties. They are required to cooperate on the basis of equality and reciprocity, by entering into specific bilateral or multilateral agreements, which promote the creation of joint bodies for transboundary cooperation on water. The Convention encourages the Parties to cooperate on the scale of drainage basins.





































Source: A Handbook for Integrated Water Resources Management in Transboundary Basins of Rivers, Lakes and Aquifers, 2012.

From the interviews with the officials of the LCBC Executive Secretariat and those of the responsible ministries and national organizations, and after the document analysis, the joint auditing team established that the LCBC has developed the modalities for eventually having a regional database on water resources of the Lake Chad basin. These modalities are contained in the Memorandum of Understanding on data exchange between the Member States of the LCBC, signed on 26 March 2008 in Abuja, Nigeria. Through this Memorandum of Understanding, the Member States undertake to ensure the collection and transmission of data to the LCBC through national focal points, to build up a regional database (RDB). The role of the LCBC in this context is to manage and organize the RDB, as well as to receive, process and prepare data for exploitation.

However, despite the existence of the Memorandum of Understanding, which has been part of the Water Charter in the process of being ratified since 2012, the Executive Secretariat of the LCBC does not have, at present, an integrated transboundary information and monitoring system to enable it to have data on the actual condition and levels of water resources that is comprehensive, up-to-date, consistent and covering all the states.

The Executive Secretariat of the LCBC only has fragmentary, outdated data that strongly depends on the existence, functioning and effectiveness of national networks in the Member States. Yet, such networks are for the most part non-functional in the riparian countries and do not allow decisions to be made based on relevant data and sufficiently informed projections. At the time of the joint auditing team's inquiry in 2013, the type of data possibly available to the LCBC since 2008 is as follows:

Table 22: Evaluation of the LCBC's access to the necessary data for water resources management in the Lake Chad basin.

Data type	Cameroon	Niger	Nigeria	Chad
Groundwater resources				partial
Surface water resources				
Use of water in the basin				
Amount of water withdrawn				
Resource mobilization structures				
Occupation and condition of basin soils (soil, vegetation, erosion)				
Climate/weather conditions and observations	partial	partial		partial
Environmental aspects				
Navigation on the lake and the associated navigable watercourses				
Socio-economic conditions of the basin populations				

Source: Executive Secretariat of the LCBC in September 2013.

 Yes

 No



The relevant data on the use of water resources, the amount of water withdrawn and mobilization structures are neither collected nor available.

The gaps observed above have several causes.

On the one hand, the Executive Secretariat of the LCBC has not ensured the existence, functioning and effectiveness of hydrometric and rainfall networks or programmes in Member States and has not gone to any effort to support them in this.

On the other hand, the Executive Secretariat of the LCBC has not analysed the needs regarding data collection and management, and does not have sufficient capacity for this. Currently, the sparse, fragmented data available is sometimes gathered by the Lake Chad Basin Observatory, sometimes by the Directorate of Water Resources and Environment, and sometimes by the GIZ/BGR project, without a harmonised and integrated approach or the sharing of information between the actors.

**Box 8: Project for Sustainable Water Resources Management in the Lake Chad Basin (GIZ/BGR)**

**Modules: “Organizational advisory services and Advice on groundwater for the Lake Chad Basin Commission”**

Seeing as surface water availability is strongly affected by short and long-term variability of climatic conditions, Germany's Federal Ministry for Economic Cooperation and Development (BMZ) has been assisting the LCBC since 2005 in its efforts and initiatives aimed at reversing this trend.

The current German development cooperation programme “Sustainable Water Resources Management in the Lake Chad Basin” was thus initiated in 2010 in collaboration with the Federal Institution for Geosciences and Natural Resources (BGR) and is now divided into a **technical module (BGR)** and an **organizational/institutional module (GIZ)**. These two modules were created to assist the LCBC in its institutional, organizational and technical requirements. Since January 2011, these two commitments have been operational within the framework of a joint programme.

**1) Organizational/institutional module (GIZ)**

**a. Objectives**

The objectives of the project “Organizational advisory services for the Lake Chad Basin Commission” are to support the organizational development of the Commission and to strengthen its capacity to perform its tasks and achieve sustainable results. Therefore, GIZ's tasks comprise the following:

- Supporting the Commission in the implementation of its institutional reform
- Information and data management
- Strengthening planning, communication and cooperation within the Commission and its partner institutions the member countries
- Strengthening the status of the Commission and its visibility at regional and international level.

#### **b. Achievements**

In order to strengthen the capacity of the Commission to perform its tasks and achieve sustainable results, two cross-cutting areas of intervention have been defined:

- Strengthening the effectiveness and performance of the organization and its partners in the member countries
  - Organizational advisory services
  - Introducing a communication system
  - Drawing up a plan for skills development (planning, communication, coordination, conflict management, training and exchange trips)
- Expanding the existing information system and adapting it to the requirements of a two-yearly report (ecological condition of lake Chad):
  - Expanding the database, Geographic Information System (GIS), software
  - Structuring the two-yearly report
  - Developing a monitoring and evaluation system
  - Developing an indicating system
  - Reactivating the protocol of data exchange with the member countries
  - Supporting data collection, processing and analysis at the competent institutions in the member countries
  - Designing and developing a website with a communication platform for the Lake Chad Basin Commission and institutions in the member countries

The programme also supports exchanges with other regional and international river basin or drainage basin commissions, as well as the organizational development of transboundary management structures (including data, information and knowledge management).

The overall project duration is from July 2010 until June 2017, and the current phase ended in June 2014. The budget for the programme is 4 million Euros.

## **2) Technical module (BGR)**

### **a. Objectives**

The project aims to improve coordination and the exchange of groundwater data between the Member States, and to integrate this data into a management system in order to elaborate appropriate strategies of the Commission for the sustainable use of water resources.

It is also aimed at improving the data/scientific knowledge exchange between the LCBC and the focal structures of the member countries. Therefore, hydrogeologists of national institutions participate in the planning of the project's activities. Furthermore, this project is intended to work closely with universities of the member countries.

### **b. Achievements**

#### ***Period I (2007 - 2011)***

During the first period of the project, the available hydrogeological, hydrological and mapping data from each member country was collected and analysed.

In addition 441 water points in Chad were counted, of which 422 were groundwater and 19 surface water points.

The results enabled the detection of recharge areas of the quaternary aquifer in Chad. Furthermore, the project has identified areas of nitrate and fluoride contamination and determined the groundwater capacity for irrigation.

#### ***Period II (2011 - 2014)***

- Training LCBC experts in hydrogeological methods for the collection and analysis of groundwater data;
- Collecting of groundwater and surface water data in the basin and pilot areas;
- Developing a groundwater database and integrating it into a water information system;
- Installing a groundwater monitoring system;

- Compiling a hydrogeological map of the Lake Chad basin;
- Establishing a water coordination group within the LCBC responsible for the continuous exchange of groundwater data. The group is in charge of developing strategies of integrated water resources management in the basin.

The total duration of the programme is from July 2011 until June 2017, and the current phase ended in June 2014. The budget for this programme is 4 million Euros.

This dispersal of data collection and management mechanisms, without a clear division of roles between the structures of the Executive Secretariat, causes numerous conflicts of jurisdiction, detrimental to the effective availability of the expected data and affecting decisions.

The main consequence of these malfunctions is the unavailability of reliable and comprehensive data on:

- the state of water resources, in terms of quantity and quality;
- the usages (drinking water, irrigation, hydroelectricity, industries...) and the associated developments, as well as their impact on the quantity and quality of water resources, ecosystem functions (supporting aquatic life...);
- problems (floods, sedimentation, salinization, pollution, drought...);
- measures taken or that should be taken to solve problems and improve the use or functioning of the river.

Without sufficient, relevant and well-documented information, it is impossible to ensure adequate management and decision-making affecting the actual issues and problems of Lake Chad.

The joint auditing team concludes that the absence of a system for the collection and management of specific data for ensuring reliable and relevant information has not made it possible to make the appropriate decisions for rational and sustainable water resources management in the Lake Chad basin.

One of the key elements integral to the existence and performance of data collection and management programmes is the sharing of information between the actors involved. In the context of the Lake Chad basin, under the provisions of its Statutes that call for maintaining the liaison between the Member States with a view to achieve the most efficient use of water in the basin, and the **“Memorandum of Understanding on data exchange”**, adopted at the Council of Ministers meeting held at Abuja from 25 to 26 March 2008, the LCBC is responsible for ensuring the existence of mechanisms for coordinated transmission of data on the basin and its natural resources, including water resources. The LCBC should thus, in conjunction with the

responsible ministries and national organizations, in particular define the procedures and modalities for the transmission of this data within the set timeframe, but above all see to its effective application by the Member States. As for the riparian states, Article 4 Paragraph 1 of the Memorandum of Understanding requires in particular of them to provide and share data relating to the Lake Chad basin, including data on water resources, with the other Member States through a national agency called a national focal point.

The joint auditing team has found, after document analyses and interviews with the officials of the LCBC Executive Secretariat and of the responsible ministries and public organizations, that despite the existence of the legal instruments mentioned above, the ministries and national organizations responsible for this in each of the Member States do not ensure the regular exchange of data and information on the levels and use of water resources in their respective national sections of the Lake Chad basin. The framework for the sharing of basin data is therefore still in an embryonic stage, in spite of the initiatives undertaken by the Executive Secretariat of the LCBC for the development of a network of experts in the member countries to facilitate this data sharing. The Member States have also not yet established national focal points in all four riparian countries of Lake Chad.

There are numerous causes for this lack of data sharing. The absence of the sharing of data between the states and within the LCBC results in the first place mainly from the reluctance and lack of the transmission of data by the Member States. Moreover, the little data that is transferred is not done within the timeframe or according to the established modalities and specifications.

It is also due to the fact that the permanent structures dedicated to the relay of data collection and management activities of the Lake Chad basin in the Member States, particularly the national focal point structures, are not functional. The LCBC and the Member States have decided to confer the status of focal point to public officials, who often do not fulfil the roles and responsibilities defined and are subject to mobility constraints in the public administration of the states.

The LCBC has also not gone to the necessary effort since the Memorandum of Understanding was signed in 2008, to develop modern logistical resources and automated information and management systems that are harmonised and integrated with the Member States, which could facilitate and accelerate the regular transmission of expected data.

Finally, the insufficient interest and minimal involvement of the responsible ministries and national organizations as well as the political bodies of the Member States (particularly the parliaments) in the issues of the Lake Chad basin contribute to reducing compliance of the states with their obligation of collecting and sharing national data on the Lake Chad basin.

This dysfunction has many consequences. Because of this, the decision-makers and the different user groups do not have access to detailed, representative and reliable information at all levels, in particular on:

- the quality and quantity of water resources, both of surface water and groundwater, as well as their seasonal and annual variations;
- the use of water (withdrawal), in particular for irrigation, industry, etc.;
- the risks of extreme recurrent phenomena, such as floods and drought.

Without quality data and information, the steering of water resources management in the basin is done in an offhand way and does not have a significant impact on the trend towards drying up of Lake Chad and the degradation of its natural environment.

In addition, each state uses water resources without regard for the water supply and needs of the other countries and in doing so does not ensure equitable water management in the Lake Chad basin.

The LCBC, who is meant to be the benchmark for archived and current data, does not have the complete, sufficient and reliable information to be able to report in a credible manner on the situation and evolution of water resources in the Lake Chad basin.

Finally, the lack of data on the management and use of water resources makes it impossible to evaluate the relevance and effectiveness of the existing water resources surveillance and control measures, to make sure that they are regularly updated.

The joint auditing concludes that the insufficient sharing and the resulting lack of distribution of data and information on the water resources of the Lake Chad basin by the riparian countries has played a role in the deterioration of its management and the restriction of the positive impact of potential measures for the rational and sustainable use of the water resources in the Lake Chad basin.

## ► **Recommendations**

The Executive Secretariat and the Member States should ensure the full application and improvement of the data sharing modalities included in the Memorandum of Understanding for these purposes. They should particularly see to it that national focal points are in operation in every country and that there are regular exchanges between these focal points and the Executive Secretariat.

In addition, regarding water resources control and surveillance, the Executive Secretariat of the LCBC should implement a comprehensive basin surveillance programme that integrates awareness-raising and support of the states in data collection and the surveillance of withdrawal levels in each state, and that coordinates information from local, national and regional levels and public, private and non-government organizations, as well as users.

Lastly, on the basis of this programme, create a fully functional regional database that is reliable, affordable and technically accessible, adapted and fair to all partner states.

Opinion of the LCBC's Executive Secretariat. The executive body of the LCBC accepts the recommendations made.

## 2.5. Enforcement of regulations

***In spite of a Water Charter of the Lake Chad basin being adopted in April 2012, the common rules on the use, management, control and surveillance of water resources and ecosystems in the Lake Chad basin and in various bilateral agreements included in this Charter, have not always been enforced and are not imposed on the riparian states, members of the LCBC.***

Among the good practices for sustainable water resources management in transboundary basins, the Handbook for Integrated Water Resources Management in Basins stipulates that, as part of its monitoring, investigative, coordination and regulatory functions, the basin organization must ensure the prevention, supervision and enforcement of regulations. Within this framework, it is responsible in particular for the formulation and enforcement of uniform or harmonised legal rules aimed at encouraging the sustainable use of water resources and preventing the degradation and overexploitation of ecosystems, and its restoration. In the context of Lake Chad, according to Article 4 of the Fort Lamy Convention of 1964, the LCBC is responsible for ***“preparing common regulations”***.

From the interviews conducted with the Executive Secretariat officials and the document analysis, the joint auditing team found that, when it comes to the use, management, control and surveillance of water resources and ecosystems in the Lake Chad basin, the Water Charter of the Lake Chad basin – the uniform and harmonised regulations adopted in April 2012 by the Summit of Heads of State of the LCBC, which contains modern principles for integrated water resources management, is not always enforceable.

Therefore there has been no common mandatory rule imposed on the riparian states and the LCBC that encourages the sustainable management of water resources in the Lake Chad basin since the creation of the LCBC.

This major gap is caused by the following:

On the one hand, the Executive Secretariat of the LCBC has only very recently considered the adoption of harmonised rules for sustainable water resources management. In addition, after the Water Charter of the Lake Chad basin was adopted in 2012, it has not gone to the necessary effort with the riparian countries to support them and facilitate, along with the national focal points, the ratification of this important instrument aiming to significantly improve the management of water resources in the basin. It should also be stated that the objectives of the 1964

convention was much more political and security-orientated than environmental. Therefore, for many decades, the main environmental problems have been sidelined. For example, issues of regulating withdrawals and of the management of dams and other collective works of the Member States are not specified in the convention.

On the other hand, from the adoption of the basin Water Charter, it is the responsibility of the Member States to effect its implementation through the ratification of this legal instrument in all the countries. The Member States, who have very rarely fulfilled their obligation of prior notification to the LCBC of their planned initiatives that concern the water resources of the Lake Chad basin, have typically given priority to national socio-economic development projects concerning its resources, rather than ensuring the sustainable management of them.

This lack of mandatory rules causes many shortcomings in the sustainable management of water resources in the Lake Chad basin, since it gives rise notably to:

- the diverse and sometimes divergent or conflicting use of water resources in the basin by the Member States;
- the impossibility to identify and call attention to actions or practices that go against the sustainable management of water resources in the Lake Chad basin, so that it can be effectively combated;
- the lack of harmonization and dissemination of good practices for sustainable water resources management, thus preventing the complementarity of actions undertaken by each state with those of the other states;
- the inequitable management of water resources of the Lake Chad basin.

The joint auditing team concludes that the lack of common regulations for the use of water resources of the Lake Chad basin has not allowed the protection of these resources or the promotion of actions and practices that encourage the sustainable management of it. The Lake Chad Water Charter can help clarify the involvement of stakeholders, refine surveillance and control measures, and disseminate good practices for managing water resources in the Lake Chad basin.

It is also the responsibility of the LCBC, in accordance with the 1964 Fort Lamy Convention, to **“prepare common regulations”** and **“promote regional cooperation”**. In view of this task, the Executive Secretariat of the LCBC is reasonably expected to develop various initiatives and actions to encourage or facilitate the enforcement of bilateral conventions or agreements between Member States with the objective of contributing to the sustainable management of water resources of the Lake Chad basin.

From the documentary analysis and the interviews with the ministries and national organizations and the officials of the LCBC Executive Secretariat, the joint auditing team noted that the signed bilateral conventions between the states, aiming to facilitate the use of certain shared water resources of the Lake Chad basin between them, have not been implemented.



This includes the Moundou Agreement between Cameroon and Chad, signed on 21 August 1970, and the Enugu Agreement between the four countries involved in this audit, on common regulations on fauna and flora, signed on 03 December 1977. The LCBC Executive Secretariat, for its part, has not developed a relevant mechanism to enable it to facilitate the application by the signatory states of these bilateral conventions that can contribute to the sustainable management of water resources in the Lake Chad basin.

**Box 9: MOUNDOU and ENUGU Agreements**

**1. Enugu Agreement**

The Agreement on the Joint Regulations on Fauna and Flora was signed on 3 December 1977 at Enugu by the four states (Cameroon, Niger, Nigeria, Chad) to protect the fauna and flora.

Through this convention, the States Parties undertake to protect the terrestrial fauna (through listing the protected species, fighting against trafficking of certain specimens and trophies, the regulation of reptile hunting and creating protected areas) and aquatic fauna (by means of regulating fishing methods, compiling fishery statistics, regulating the export and import of fish and combating pollution) (Art. 1-11).

As for the flora, the states undertake to limit the traditional rights of use, to combat bush fires, restrict the clearing of forested lands or lands under restoration, and to control the export and import of plant species (Art. 12-15). The Convention includes the list of protected species of fauna and flora in the basin.

**2. Moundou Agreement between Cameroon and Chad on water withdrawal from the Logone River for hydro-agricultural purposes**

This bilateral convention sets the maximum withdrawal levels in the Logone River for each State Party. Yet the agreement has not been applied, in spite of the creation of the Cameroon/Chad joint commission responsible for its efficient implementation.

The commission has remained inactive, without a permanent secretariat or a system for monitoring and controlling withdrawals. In addition, the maximum levels for withdrawal have been criticised for not taking into account the lower flow rate of the river, of which the minimum flows can no longer ensure the protection of fish or riverbank vegetation.

Source: Report on the creation and popularisation of a Water Charter for the Lake Chad Basin, LCBC – BRL, 2010.

This flaw arises from:

- the insufficient consideration of the Member States and the Executive Secretariat given to the necessity and advantages of ensuring the implementation of these bilateral conventions and seeing to it that the measures and mechanisms for the rational and equitable management of water resources are effective;
- the lack of substantial initiatives from the Executive Secretariat of the LCBC who, in the absence of clear expression to this effect in its legal framework, believes that it does not have the prerogatives to undertake this supervision;
- the delicate position of the Executive Secretariat with regard to the states, which, for lack of a specific mandate in this regard, means that they have to take political and diplomatic contingencies into account in their actions – in particular the sovereignty of the Member States.

In addition to lost opportunities for strengthening the mechanisms for the management and protection of water resources in the Lake Chad basin, this flaw:

- increases the risks of uncontrolled use of water resources in the Lake Chad basin;
- does not make it possible to ensure the controlled and reasonable use of water resources, in terms of the mechanisms established or arising from these bilateral agreements;
- does not enable the evaluation of the effectiveness of the measures taken through these acts;
- limits the opportunity for having at their disposal knowledge and information on the impact of the use of water resources among these countries;
- does not encourage the development of good practices for the rational and equitable management of water resources within the Lake Chad basin.

These agreements have thus not produced the intended results, since withdrawals were made and dams were built, creating the idea that the upstream riparian countries were acting without any regard to the downstream countries, leading to some extent to the exclusive use of the transboundary waters. In this way, the failure to ratify or enforce the Water Charter of the Lake Chad basin by all the riparian states leaves the problem unaddressed.

The joint auditing team concludes that the lack of a mechanism for monitoring the application of the understandings, agreements and conventions by the Executive Secretariat of the LCBC has not helped to facilitate compliance with the agreed rules and the implementation of practices to enable the sustainable management of water resources in the Lake Chad basin.

## **2.6. The LCBC's capacity to ensure proper governance of water resources in the Lake Chad basin.**

**6-1. The LCBC's funding model is at risk. Furthermore, the financial, human and logistical resources do not focus sufficiently on effective actions of sustainable management and protection of water resources in the Lake Chad basin.**

For the purpose of effectively ensuring the development and sustainable management of natural resources in transboundary basins, the basin organization needs to have adequate operational capacity to its disposal for performing its tasks. The basin organization should also have financial and human resources available to enable it to carry out its tasks and assume the three main functions it was assigned, namely: the patrimonial management of water resources, building and maintaining facilities for the management and protection of shared natural resources, and its operation. This requirement, recalled in the Handbook for the management of transboundary basins and aquifers, also applies to the LCBC, through its executive body which is the Executive Secretariat, who must have the appropriate financial and human capacities.

As far as financial capacity is concerned, the LCBC should have a sustainable and appropriate financing system so that it can be effective. This system must particularly encourage budgetary autonomy in the daily functioning of the organization, giving it a degree of independence from the Member States and a long-term vision of the financial resources that it can count on. The financial system will be sustainable when the majority of the operating budget is covered by stable and certain resources.

Following reviews of administrative and financial documents of the LCBC (budgets, activity reports, auditors' reports, etc.), and interviews with the officials of the Executive Secretariat, the joint auditing team has established that the LCBC's financing system is not based on resources that are reliable in the long run.

In fact, the financing system of the LCBC relies exclusively on the contributions of the Member States and external funding from donors. Both of these components are funding sources that are limited, temporary and difficult to mobilize. Hence they are not sustainable. The performance of the activities of the LCBC in general, and specifically those of water resources management in the Lake Chad basin and the functioning of the Executive Secretariat in particular, are therefore seriously threatened.

The LCBC is thus regularly confronted with the problem of variability in the amount of funding available from one year to the next, mainly caused by the irregularity in the payment of the contribution of some Member States, which results in significant arrears in the long run.

The table below summarizes the changes in funding through the contributions of the Member States for LCBC activities during the audited period. It provides an overview of the extent of the variations in cash flow that the LCBC is subject to and of the

degree to which the Executive Secretariat depends on the contributions from the Member States to ensure the performance of the planned activities and projects at the right times.

**Table 23: Summary of LCBC funding through contributions from the Member States**

Financial year	Accumulated arrears in contributions beginning of the financial year (CFAF)	Budget for the current year (CFAF)	Payments received during the year
2009	4.310.980.273	2.638.500.317	757.221.383
2010	6.192.259.207	3.209.976.107	6.023.340.042
2011	3.378.895.272	3.813.206.719	2.848.551.241
2012	4.343.550.752	4.141.764.648	2.528.528.743
2013	6.035.479.080	4.116.725.066	2.446.078.895
2014	7.593.396.744	3.984.088.768	5.885.535.124

Source: Financial statements of the LCBC and account certification reports for the financial years 2008 to 2014.

The joint auditing team has also found that the available financial resources are not primarily directed towards activities of sustainable management of natural resources in the Lake Chad basin, and first and foremost the water resources, which is the reason for the LCBC's existence.

In fact, under the shared responsibility of the Council of Ministers, notably in charge of approving the budget and monitoring its proper implementation, and the Executive Secretariat who draws up and ensures the effective implementation of the budgets, and in spite of the noted financial difficulties, several activities that is not connected to the missions and functions of the LCBC have mobilized a significant amount of available financial and human resources, just as the increasing expenses for the staff's satisfaction.

The Executive Secretariat of the LCBC has, for example, mobilised a good deal of its financial, human and logistical resources for HIV/AIDS-related activities under the Support Project to the Initiative of the Lake Chad Basin to reduce the vulnerability and risks related to STDs and HIV/AIDS. However, such activities are mainly the responsibility of the states, and the LCBC's performance of these activities leads to duplicated efforts, since the riparian states undertake programmes in the same fields at national level. This means that the LCBC is acting well beyond its mandate and does not enable the Executive Secretariat to optimise the use of its human and financial resources, and even less to a lesser extent to focus on priority activities related to integrated water resources management of the Lake Chad basin.

The table below summarizes some similar activities identified by the joint auditing team, of which the subject or level of funding was given priority while their impact on the sustainable management of water resources is not established.

**Table 24: Activities funded and carried out by the LCBC's Executive Secretariat that are irrelevant to the sustainable management of water resources and ecosystems in the Lake Chad basin**


Financial year	Support Project to the Initiative of the Lake Chad Basin (PAIBLT)		Housing activities (building of rental homes)		Car loans and grants to staff	
	Budget estimate	Amount spent	Budget estimate	Amount spent	Budget estimate	Amount spent
2010	250 000 000	250 000 000	150 000 000	155 239 875	50 000 000	64 173 265
2011	150 000 000	100 000 000	200 000 000	167 239 875	100 000 000	100 000 000





Source: Financial statements of the LCBC and account certification reports for the financial years 2010 and 2011, for which the data was provided by the LCBC.

Finally, the joint auditing team has noted after exploitation of the financial statements and account certification reports for the financial years from 2008 to 2012, that the accounting and financial management system used by the Executive Secretariat of the LCBC limits the transparency and rendering of accounts to the Member States and does not allow good traceability of the activities carried out. In fact, several shortcomings have been emphasised and reiterated by the auditors during the audited period, without any corrective measures being taken by the Executive Secretariat.

The table below identifies the main observations of the auditors regarding the LCBC management:

**Table 25: Main shortcoming identified by the auditors concerning the accounting and financial system of the LCBC's Executive Secretariat**

Findings of the auditors	Corrective measures undertaken by the executive secretariat	Observations on risks faced by LCBC
It has not kept general accounts allowing to keep track of account developments over time, the existing accounting is budgetary and only serves to justify the expenses drawn from the budget during a single financial year		Lack of real-time knowledge of the cash position  Offhand approach to management of existing financial resources

<p>The accounts do not reflect the assets and liabilities of the Executive Secretariat: the balance sheets are summarized in a table of expenditures and sources of funds – it does not include the property assets (all goods), stock (office supplies, etc. ...), or the receivable and payable amounts. In short, the balance sheets do not comply with the applicable standards in the state where the LCBC has its headquarters, notably the standards of the Organization for the Harmonization of Business Law in Africa (OHADA)</p>		<p>Management of financial and material resources that is not in accordance with the good practices</p> <p>Risk of accounting errors and fraud</p>
<p>There is no manual for administrative, accounting and financial procedure: the procedures followed are those described in the Financial Regulation and the Staff Rules, These procedures are incomplete and open for interpretation and improvisation</p>		<p>Weak internal control and risk of error and fraud in the use of funds</p>
<p>Using pro forma invoices and photocopies to justify expenditure</p>		<p>Undocumented expenditure</p>
<p>Lack of computer data back-up</p> <p>The LCBC does not have backup hardware for its accounting and financial data</p>		<p>Losing computer data and not being able to produce accounting and financial information</p>

Source : Financial statements of the LCBC and account certification reports for the financial years 2008 to 2012.

 **Yes**

 **No**

The inadequacies mentioned above stem from institutional causes and the strategic choices made.

At institutional level, the lack of clarity and precision regarding the exact nature and tasks of the LCBC, and the current incongruity of its mandate for the issues and challenges of the Lake Chad basin, does not allow sufficient supervision of proposed or undertaken activities and projects, in the sense of directing them primarily towards fulfilling the core tasks of basin organizations.

Moreover, failure to conduct a strategic study in 2008 on the independent and sustainable funding of LCBC activities resulted in strategic choices with respect to

alternative and sustainable funding of the LCBC not being clarified or implemented by its bodies, thus excluding numerous relevant and alternative funding opportunities available to basin organizations such as the LCBC, presented in the table below:

**Table 26: Different funding systems of transboundary basin organizations**

Financing of transboundary basin organisations						
Internal financing				External financing		
Contributions from member states		Levy system	Remuneration for project management	Sale of services	Public-private partnerships	Donor contributions, loans provided as part of Official development assistance
Direct contributions to the budget according to a grid defining each country's level of contribution	Contribution via levies from the community	Based on the "polluter pays" principle	Payment for services in terms of project management provided by the basin organisation	Payment of other types of services or products provided by the basin organisation	Financing of infrastructure by the private sector in the framework of a contract	Based on projects (sometimes also programme based)
No direct link with the use of water resources		Directly linked to the use of water	Linked to the tasks performed by the basin organisation	Link to activities undertaken by the basin organisation	Linked to infrastructure development in the water sector	

Source: Manuel sur la Gestion Intégrée des Ressources en Eau dans les bassins des fleuves, des lacs et des aquifères transfrontaliers, 2012.

Because of the inadequacies identified above, the LCBC struggles, in practice, to:

- fulfil its various tasks and functions and to meet the reasonable expectations of the stakeholders regarding the development and protection of the basin;
- meet the financing needs of development and sustainable natural resources management activities in the basin;
- meet the required deadlines, whether short, medium or long-term.

The joint auditing team concludes that the funding system in place at the LCBC and the allocation of available resources do not make it possible to cover the following three types of financing needs of basin organizations:

- financing the operational expenses of the basin organization, namely the payment of staff salaries, facilities, travel expenses, supplies, and financing of actions led by the organization (studies, database, workshops, training, etc.);
- financing ongoing missions of the organization, such as monitoring or planning;
- financing hydraulic works and infrastructure, from studies up to its achievement, including maintenance and operation.

## ► **Recommendations**

The Executive Secretariat of the LCBC should acquire an appropriate, reliable long-term funding system that is best suited to its purposes (business plan). It should therefore explore additional, sustainable funding sources such as: royalties and taxes related to water uses in the Lake Chad basin, payment for project management provided to the Member States and public-private partners, etc.

It should also work to modernize its financial management practices, so as to ensure improved transparency of its financial processes and better reporting to the Member States on the use of funds, particularly of the outstanding contributions of the Member States.

In addition, the Executive Secretariat should systemize the implementation of the recommendations made by the auditors for improving its management.

It should lastly shift the priorities of its human, logistical and financial resources towards the objective of sustainable management and protection of natural resources in the Lake Chad basin, including its water resources. They should therefore focus their capacities more on the areas identified as matters of priority by the best practices for basin organizations.

Opinion of the LCBC's Executive Secretariat. The executive body of the LCBC accepts the recommendations made.



**Regarding human capacity**, it is necessary for the LCBC, as for any basin organization, to have sufficient human capacities suited to the basic functions of such organizations in order to be effective and ensure that their actions have a lasting impact. These essential functions are recalled here:

- monitoring, investigation and regulation;
- planning and funding;
- development and management.

For these purposes, the basin organization must consist of a permanent management team of suitable and adequate size, to ensure the implementation of its Strategic Action Programme, its financial independence and the accomplishment of its assigned duties.

As regards the LCBC, it would be expected that during the process for the recruitment and appointment/allocation of staff, the main focus would be on the technical competence to ensure the sustainable management of natural resources, including water resources, and the harmonious development of the basin. The LCBC should also see to the development of staff capacity through training in its identified fields of action, in order to develop the required skills and adopt tools for managing the information system.

After having reviewed the human resources management documents (staff files, elements of staff recruitment, appointment/allocation and training, etc.), and having interviewed the officials of the Executive Secretariat, the joint auditing team has established that the Executive Secretariat does not have a strategy for human resources management that is suited to the essential functions of basin organizations and primarily focused on the sustainable management of natural resources in the Lake Chad basin.

In fact, the Executive Secretariat of the LCBC has not sustainably and sufficiently equipped itself with permanent staff having the necessary technical skills to fulfil the essential functions of basin organizations. Staff recruitment is done without regard to the primary objective of development and sustainable management of natural resources in the Lake Chad basin. Thus, at the time of the auditing team's inquiry, the Executive Secretariat was mainly composed of administrative staff members and included very few technical profiles with the necessary skills for transboundary development planning, managing hydrometric surveillance programmes, or managing and maintaining databases and infrastructure.

Moreover, the joint auditing team has pointed out that several highly important technical positions have not been filled, even though their duties are necessary for the achievement of the LCBC's objectives. The table below presents the vacancy situation at the time of the joint auditing team's inquiry and how it affects the LCBC in the performance of its duties:

**Table 27: Status of vacancies in the Executive Secretariat of the LCBC compared with its organizational chart**

Vacancies in the Executive Secretariat	Duties	Impact on the duties of the LCBC
Director General of Administration and Finance	Coordination of administrative and financial services, especially with regard to funding strategies for activities and management of the LCBC's available resources.	Alternative options for independent and sustainable funding of the LCBC activities are not being explored sufficiently  Available funding is not being sufficiently directed towards missions for the protection and sustainable management of natural resources
Human Resources Director	Planning and managing human resources (HR) of the LCBC  Managing HR performance	Inadequate design and monitoring of strategies for sustainable human resources management adapted to the issues of the basin and the expectations for the LCBC
Director of Human Resources Development	Development and training of LCBC HR	Inadequate design and monitoring of strategies for sustainable human resources management adapted to the issues of the basin and the expectations for the LCBC
Water management modelling expert	Planning and developing modelling techniques for Integrated Water Resources Management in the Lake Chad basin, involving rainfall monitoring and projections	Inadequate monitoring and coordination of the IWRM process at regional level
IWRM expert	Developing the Integrated Water Resources Management process in the Lake Chad basin  Planning and developing strategies of integrated water resources management that involves all actors	Inadequate monitoring and coordination of the IWRM process at regional level

Environmental sector expert	Responsible for supporting the technical departments and operational directorate for the implementation of the SAP for the Chad basin. In this context, he/she will do the planning, monitoring and evaluation for projects and programmes and contribute to capacity building.	Inadequate planning, monitoring and evaluation of projects and programmes.  Inadequate capacity of LCBC officials in the efficient management of environmental projects and programmes.
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Source: LCBC organizational chart and staff files, auditing team interviews

These major inadequacies have many causes:

On the one hand, the lack of clarity of the LCBC mandate, as well as of the exact nature and prerogatives of its Executive Secretariat causes the dispersal of human resources over various objectives and activities, without necessarily being connected to the primary objective of protecting water resources. In addition, the process and criteria for staff recruitment are not sufficiently clarified, and mainly influenced by political and diplomatic contingencies. This limits the results-based career management.

On the other hand, the LCBC has mainly opted for outside expertise for the performance of its activities. Thus, despite their high costs, the Executive Secretariat primarily uses consultancy services.

Because of these shortcomings, the LCBC struggles to develop and establish a credible expertise on the sustainable management of basins, as well as for providing project management services in its field of activity. They are therefore strongly dependent on the states in this matter. Furthermore, the impact of many of the LCBC's activities on the reversal of the tendency towards the drying up of Lake Chad and the degradation of natural resources remains very limited.

The joint auditing team concludes that the lack of a human resources management strategy in the LCBC that is primarily focused on IWRM has played a role in limiting the effectiveness of its actions directed towards the sustainable use of water resources in the Lake Chad basin.

► **Recommendation**

The Executive Secretariat should revise and align its human resources management practices with the objectives of sustainable management of water resources of the Lake Chad basin and link it to the primary functions of basin organizations.

Opinion of the LCBC's Executive Secretariat. The executive body of the LCBC accepts the recommendations made.

### 3. CONCLUSIONS OF THE LCBC AUDIT

After completing the audit work with the Executive Secretariat of the LCBC, the joint auditing team have drawn the following conclusions:

1. The strategic development planning of the Lake Chad basin does not sufficiently link the actions and needs of the riparian countries at local, national and regional level with the objectives set by the basin organization – the LCBC. As a result, numerous competing and non-complementary actions are observed between the LCBC and the riparian states of Lake Chad. In addition, many important needs are not covered, for lack of synergy and adequate distribution of competences between the riparian countries and the LCBC.
2. The LCBC does not entirely fulfil its purpose as transboundary basin organization, in particular with regard to the equitable management of water, the development of the basin and the enforcement of rules for the protection of water resources, for lack of a clear and precise mandate to do so, and of the appropriate organization of the Executive Secretariat's departments. This vagueness leads to the dispersal of resources, and problems in providing the Executive Secretariat with an organizational structure that is sufficiently focused on the expectations for the development of the basin and the sustainable management of natural resources.
3. Despite the adoption of a Water Charter, the mechanisms and tools for regulating the withdrawal of water resources of the Lake Chad basin in each state are not functional. The riparian countries can therefore not observe the maximum levels of water withdrawal, a necessary prerequisite for protecting water resources.
4. The LCBC does not ensure the collection, processing, distribution and archiving of data relating to the evolution and use of water resources in the Lake Chad basin, for lack of the appropriate procedures and logistics and sufficient commitment from the states to contribute to this. This weakness reinforces the lack of programmes for water resources surveillance and control.
5. The LCBC's funding model is not sustainable, since it only relies on financing sources that are limited, temporary and difficult to mobilize. The performance of water resources management activities in the basin and of the Executive Secretariat operations is therefore seriously at risk.
6. The LCBC does not sufficiently direct its available financial, human and logistical resources towards effective actions of sustainable management and protection of water resources of the Lake Chad basin.

## 4. RECOMMENDATIONS AND RESPONSE FROM THE LCBC'S EXECUTIVE SECRETARIAT

### ► Recommendations

The joint auditing team has made various recommendations to improve the regional actions and initiatives that fall under the responsibility of the LCBC and the riparian states, of which the most important are set out below:

1. The LCBC should update its strategic documents so as to align all the local, national and regional initiatives with the central objective of sustainable management and protection of water resources in the Lake Chad basin.
2. The Summit of Heads of State and the Council of Ministers should update and clarify the mandate, nature and structures of the LCBC, so as to give it all the functions associated with successful basin organizations and to enable it to implement the good practices of sustainable water resources management in the Lake Chad basin.
3. The Executive Secretariat of the LCBC should implement a basin surveillance programme that integrates awareness-raising and support of the states in the collection of data and the surveillance of withdrawal levels in each state, and that coordinates information from local, national and regional level and public, private and non-government organizations as well as users.

It should also, on the basis of this programme, effectively set up a regional database that is reliable, affordable and financially accessible, adapted and fair to all partner states.

4. The Executive Secretariat of the LCBC should acquire a more appropriate, reliable long-term funding system that is best suited to its purposes. It should therefore explore additional, sustainable funding sources such as: royalties and taxes related to water uses in the Lack Chad basin, payment for project management provided to the member states and public-private partners, etc.
5. It should also shift the priorities of its human, logistical and financial resources towards the objective of sustainable management and protection of water resources in the Lake Chad basin. They should therefore focus their capacities more on the following three areas, identified as matters of priority by the best practices for basin organizations:
  - patrimonial management activities of water and other natural resources of the basin;
  - building and maintenance of facilities for the sustainable management of water resources;
  - the operation of the LCBC.

## Response from the LCBC's Executive Secretariat

In response to the observations, findings and recommendations of the audit, the Executive Secretariat of the LCBC accepts and **“adopts all the recommendations made, and requests the support of the Supreme Audit Institutions (SAIs) of the member states in the effective implementation of these recommendations”**.

Notwithstanding the acceptance above, the Executive Secretariat has made the following comments, clarifications and explanations relating to the main findings of the audit:

### **Observation concerning the strategic development planning of the Lake Chad basin, which does not sufficiently link the actions and needs of the riparian countries at local, national and regional level with the objectives set by the basin organization – the LCBC.**

The Executive Secretariat of the LCBC believes that some of the shortcomings identified in the report are likely to make it difficult to achieve the objective of the protection and sustainable use of water resources. However, it does not agree that there is a lack of a link between the strategic planning in the LCBC and the actual needs in the riparian countries of Lake Chad.

This body believes that there is a link established between the strategic planning of the LCBC and the actual needs in the riparian countries of Lake Chad. In this sense, according to the LCBC, its Strategic Action Programme (SAP) was developed with a participatory approach on the basis of the National Action Plans (NAPs) of each state, so that the objectives of these NAPs contribute to achieving the Ecosystem Quality and Water Resource Objectives (EQWRO) of the SAP. Moreover, the SAP has led to sub-basin management plans, namely Komadugu Yobe (Nigeria-Niger), Lake Fitri (Chad) and Waza-Logone. Furthermore, the Executive Secretariat concludes that the SAP is flexible since it can be revised every five years, in order to take account of changing circumstances.

### **Observation of the existence of numerous shortcomings observed in planning**

The Executive Secretariat of the LCBC agrees with the joint auditing team that the shortcomings identified in the coordination of planned actions as well as in the cost-sharing mechanisms for the implementation of the five-year plans exist and should be corrected and clarified. This body points out, however, that it believes the SAP is indeed a framework for promoting IWRM and the protection of water resources in the basin. For this reason, the solution to the shortcomings must be sought in the implementation of the Water Charter, mainly of the annex relating to environmental protection.

The Executive Secretariat subsequently summarized the actions undertaken and tools developed by it for improving the quality of planning in the sense of providing

sustainable water resources management. Furthermore, it is not convinced that duplications or a lack of coherence exist, on the grounds that some activities carried out as part of PRODEBALT were identified and performed by technical services of the member countries and national NGOs through conventions with the LCBC.

### **Observation of the lack of evaluation of the Executive Secretariat's performance**

The Executive Secretariat of the LCBC confirms the joint auditing team's observation and admits that it has never produced the annual performance report. It has however undertaken to revise its SAP, to carry out a mid-term evaluation of its five-year investment plan, to map interventions in the basin and to produce the report on the state of the Lake Chad basin at the start of 2015.

### **Observation of the LCBC not entirely fulfilling its purpose as transboundary basin organization, particular in the equitable management of water, the development of the basin and the enforcement of rules for the protection of water resources, for lack of a clear and precise mandate to do so, and of the appropriate organization of the Executive Secretariat's departments.**

The Executive Secretariat admits that all the findings and observations made by the joint auditing team are correct and relevant. It therefore believes that the mandate and missions of the LCBC must be redirected so that this organization can effectively be a true basin organization focusing on the implementation of good practices for the integrated management of water and natural resources in the basin, for the wellbeing of the populations living in this geographical area.

However, the Executive Secretariat points out efforts reflecting the willingness of the Heads of State of the member countries to build the capacity of the LCBC for transforming it into a functioning basin organization and taking account of the modern principles and rules for managing international rivers and lakes, particularly through the Water Charter of the Lake Chad basin.

### **Observation that the mechanisms and tools for regulating withdrawal of water resources from the Lake Chad basin in each state are not functional, despite the adoption of a Water Charter.**

The Executive Secretariat recognises the weakness regarding the compliance with maximum withdrawal levels. It believes that these inadequacies can be attributed to the lack of legal force of the Water Charter, resulting from the failure to ratify it by all the riparian states.

The Secretariat agrees with the recommendation made for upgrading and renovating measuring stations by modern and adapted equipment. It points out the (PRESIBALT) programme that it has developed with the support of the AfDB, to which it dedicates 34% of its budget. It also cites the Lake Chad-Hycos projects under preparation, the institutional support from German cooperation, the UNDP/GEF Project and PRODEBALT, which will devote a significant part of its allocated

resources to the management of equipment and databases.

**Observation of the LCBC not ensuring the collection, processing, distribution and archiving of data on the evolution and use of water resources in the Lake Chad basin, for lack of the appropriate procedures and logistics and sufficient commitment from the states to contribute to this.**

According to the Executive Secretariat of the LCBC, the prior existence of a hydrometric data collection network at Member State level, sovereign in this regard, is required to enable the LCBC to carry out the collection of water data. It recognises the shortcoming of the LCBC in terms of its ability to collect data, whether for the reason that it is not available (stations that are not functioning or monitored), or because of the refusal of some states to pass on this data. It also cites the refusal of some of the states to sign the data exchange agreement, and the absence of structures for the exchange and storage of this data.

Moreover, the LCBC adds that the Executive Secretariat has worked for the existence (functioning) of hydrometric and rainfall observation networks at Member State level, particularly as part of PRODEBALT. The Executive Secretariat concludes its statement by asking for the states' willingness to exchange and share data and information in accordance with the 2008 agreement.

**Observation regarding the failure to enforce regulation, and the absence of harmonised rules.**

The Executive Secretariat of the LCBC admits that all the observations of the audit under this point are true, thus receiving its full attention. In terms of efforts made, it does however mention unsuccessful attempts at harmonization. In this regard, it cites the initiative for formulating common regulations, suggested at the 9th meeting of the Council of Ministers of the LCBC, held in Yaoundé in June 1969. To this is added the failed draft memorandum of understanding on the equitable and reasonable use, development, conservation, management and protection of international waters in the conventional basin of Lake Chad, discussed in 2007.

The Executive Secretariat concludes by expressing its wish for the ratification of the Water Charter, an instrument that could resolve many of the problems.

**Audit observation that the funding model of the LCBC is not sustainable, and that its few available financial, human and logistical resources are not sufficiently focused on effective actions of sustainable management and protection of water resources in the Lake Chad basin.**

The Executive Secretariat of the LCBC admits that all the observations made by the Joint Auditing Team in this area (gaps, shortcomings, poor governance, etc. ...) are true and are receiving its attention. It adds that the LCBC plans to acquire a Manual for Administrative and Financial Procedures of the Executive Secretariat, to submit it very shortly for approval by decision-making bodies, with the aim of moving towards financial orthodoxy and transparent management.



In addition, in favour of its performance and alignment with the essential functions of basin organizations, the Executive Secretariat reports that a new reform is being finalised. With this in mind, all the vacancies observed during the joint auditing team's inquiry were filled in 2014.

The full response of the Executive Secretariat of the LCBC appears in **Annex 2**.





## CHAPTER 4 **OVERALL CONCLUSION**

## CHAPTER 4

# OVERALL CONCLUSION

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This joint environmental audit, oriented towards the evaluation of policies, strategies and actions at national level by public authorities of each riparian country of Lake Chad, and by the Lake Chad Basin Commission at regional level, has highlighted once again the importance and sensitivity of this unique freshwater body in the heart of the dry Sahara.

Moreover, it will point out the efforts of each country and of the LCBC over these past years, or even decades, to keep the problems of Lake Chad at the centre of global environmental concern. If it is to be commended, the Supreme Audit Institutions that participated in this audit, having completed their work, still draws the attention of various stakeholders to the two main messages of the audit following here, based on the findings and recommendations made.

**On the one hand, with regard to the definition and effective implementation of policies, strategies, actions and instruments for the control of water users, the development of water resources monitoring and surveillance mechanisms, and the enforcement of protective legislation on these resources, it appears that the management and the future of Lake Chad have not been sufficiently taken into account to fall under the national priorities of the LCBC Member States.**

The low level of consideration given to this body of water and the issues relating to its reduction, or even disappearance, have led to the shortcomings and gaps pointed out by the joint environmental audit, namely:

- a. the lack of institutional coordination of actions related to water resources management in the Lake Chad basin;
- b. the lack of formal strategies for directing actions and interventions of ministries and other organizations regarding the resources management in the Lake Chad basin;
- c. insufficient control measures of water users in the Lake Chad basin;
- d. the inadequacy of the water resources monitoring and surveillance framework of the Lake Chad basin;
- e. the insufficient application of the legal and regulatory framework for water resources management in the Lake Chad basin;
- f. the non-operationalization of structures and technical means of water resources management that could contribute to the safeguarding of Lake Chad water resources in the riparian states;

- g. the failure to comply with financial commitments by the Member States of the LCBC to this organization, reflected by the general observation of significant arrears in contributions for the financing of its activities.

**On the other hand, the LCBC has for a long time been orientated in its mandate, structures, strategies and actions towards various transboundary activities which may be important to the riparian countries of Lake Chad, but which do not give due consideration to the primary objective of its vocation as true transboundary basin organization, namely: the sustainable management of Lake Chad, a transboundary water resource. Consequently, the legal instruments guiding its actions, as well its financial and human resources have not sufficiently helped to achieve the primary objective, which is the lasting and sustainable management of this body of water, nourishing more than thirty million people.**

All the findings of the audit at regional level result from this fundamental flaw. They are recalled here as a matter of importance:

- a. the strategic development planning of the Lake Chad basin does not sufficiently link the actions and water needs of the riparian countries as local, national and regional level with the objectives set by the basin organization – the LCBC;
- b. the LCBC does not entirely fulfil its purpose as transboundary basin organization, in particular with regard to the equitable management of water, the development of the basin and the enforcement of rules for the protection of water resources;
- c. despite the adoption of a Water Charter, the mechanisms and tools for regulating the withdrawal of water resources of the Lake Chad basin in each state are not functional;
- d. the LCBC does not ensure the collection, processing, distribution and archiving of data relating to the evolution and use of water resources in the Lake Chad basin, for lack of the appropriate procedures and logistics and sufficient commitment from the states to contribute to this;
- e. the LCBC has not put in place a sustainable funding model, since the current one relies on financing sources that are limited, temporary and difficult to mobilize;
- f. the LCBC does not sufficiently direct the few financial, human and logistical resources that it has available towards effective actions of sustainable management and protection of water resources of the Lake Chad basin.

It is therefore the responsibility of the governments, parliaments, and administrations of the member countries of the LCBC and all other stakeholders in the management of the Lake Chad basin and its natural resources, to take ownership of the issues related to Lake Chad. The LCBC is also encouraged to refocus its activities and

operation on the conservation and development of this freshwater body, so as to become a vehicle of development and prosperity in this area on the border of the desert.

The deterioration of the security situation in the Lake Chad basin that occurred during the performance of this audit and changed, or even impaired, the development projects and plans of the riparian countries of Lake Chad, illustrates the risks that can arise from the destitution in this transboundary basin, which could be significantly aggravated by the drying up of Lake Chad.

In this regard, the recommendations made and contained in this joint audit report, as well as in the national reports of Cameroon, Niger, Nigeria and Chad, form the contribution from the SAs of these countries in the fight against the disappearance of Lake Chad and for the development of its basin area.









## CHAPTER 5 **AFTER THE AUDIT**

## CHAPTER 5

# AFTER THE AUDIT

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After this joint audit report has been presented to the governments, departments and other stakeholders of the riparian countries of the Lake Chad basin, and to the LCBC, there will be many important activities to be performed for the adoption and follow-up on the audit recommendations, namely: the filing of the audit report, the implementation of the recommendations and the evaluation of this implementation.

### 1 Filing of the joint audit report on the drying up of Lake Chad

In accordance with the Memorandum of Understanding signed by the four participating SAIs, the joint audit report is filed for the purpose of an international conference that will be held in N'Djamena, the capital of Chad, under the supervision of the General Secretariat of the African Organization of Supreme Audit Institutions (AFROSAI). This conference will also launch the campaign for raising awareness among the various stakeholders of Lake Chad water resources management on the audit findings and recommendations, so that they can be adopted among the institutions and populations of all the Member States of the LCBC.

This conference will also allow for the official presentation of this report to the other identified stakeholders, namely:

- regional organizations: WAEMU, CEMAC, ECOWAS and the African Union, as well as their respective parliaments;
- the main NGOs and actors from civil society involved in environmental issues;
- international organizations – UNEP, UNESCO, World Bank, AfDB, BADEA, FAO, etc.;
- bilateral donors of the Member States and the Executive Secretariat of the LCBC;
- media: print media, radio, television;
- SAI members of the AFROSAI environmental audit Working Group.
- other interested stakeholders.

### 2 Follow-up on recommendations

This represents one of the most important stages of the joint environmental audit on the drying up of Lake Chad.

For this purpose, an implementation plan for the audit recommendations will be elaborated **at national level** through consultation between the joint auditing team and the audited administrations in each country involved. This plan will include a

definition and timetable of the actions to be undertaken by these institutions and organizations, objectives sought, intended means of action, expected results, those in charge, and the relevant timeframes.

**At regional level**, an implementation plan for the recommendations will also be elaborated by the Lake Chad Basin Commission (LCBC), in consultation with the joint auditing team and the focal point administrations of the LCBD at national level. Just like at national level, the implementation plan for recommendations at LCBC level should clearly identify the actions to be undertaken by this organization, the conceivable objectives, the means to be used, and a specified timeframe.

### **3 Evaluation of the implementation of recommendations**

This evaluation will be performed at national level in accordance with the legal framework currently in force within each SAI, and jointly. Moreover, the evaluation of the implementation of recommendations directed at the LCBC can be carried out after two (02) years – that is to say during 2017.

**The technical and financial partners of the LCBC and its Member States are already heartily encouraged to take into account the findings and observations of this report during the formulation and performance of cooperative initiatives and projects in the area of the Lake Chad basin.**





# ANNEXES



ANNEXE 1:

THE MEMORANDUM OF UNDERSTANDING ON THE PERFORMANCE OF THE JOINT ENVIRONMENTAL AUDIT OF THE DRYING UP OF LAKE CHAD

## **Memorandum of Understanding**

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**BETWEEN**

**The Supreme Audit Institutions**

**of**

**CHAD, CAMEROON, NIGER, NIGERIA AND THE  
CENTRAL AFRICAN REPUBLIC**

**On the Joint Environmental Audit on the desertification of  
Lake Chad**

**November 2012**

## **PREAMBLE**

This agreement was signed during a planning meeting held in N’Djamena which was attended by representatives of the following Supreme Audit Institutions (SAIs):

- The CHAD Chamber of Accounts,
- The CAMEROON Supreme State Audit Office,
- The NIGER Court of Auditors,
- The Auditor-General of NIGERIA,
- The State Inspectorate General of the CENTRAL AFRICAN REPUBLIC.

This agreement is based on the principles set out in an INTOSAI publication entitled “How Supreme Audit Institutions may cooperate on the audit of international environmental accords?”

The agreement is also based on experience gained during joint activities within the AFROSAI Working Group on environmental auditing.

### **Article 1 - Stakeholders**

The Supreme Audit Institutions of Chad, Cameroon, Niger, Nigeria and the Central African Republic are all parties to the Memorandum of Understanding and are referred to below as the “Contracting Parties”.

### **Article 2 - Title of the audit**

The Contracting Parties have agreed to cooperate on the environmental audit on the desertification of Lake Chad caused by human activities.

**Article 3**  
**- Subjects of the audit**

The Contracting Parties, which are all riparian states of Lake Chad, have agreed to carry out audits on the manner in which the Signatory States of the N'Djamena Convention implement and comply with regional agreements signed with the view to restoring Lake Chad to its previous surface area, in particular:

- Convention of Fort Lamy (N'Djamena) on the Establishment of Lake Chad Basin Commission (22/5/64)
- Convention on the establishment of the Permanent Interstate Committee for drought control in the Sahel (CILSS)
- United Nations Framework Convention on Climate Change (UNFCCC)

The audit will also cover the manner in which the various riparian countries comply with, monitor and co-ordinate the commitments that their countries have made to promote better management of the water and resources of Lake Chad.

**Article 4**  
**- Type of audit**

Cooperation between the Contracting Parties will take the form of a Joint Audit. A Joint Audit is an audit conducted by a team of two or more SAIs. The team will draft a single Joint Audit report published in all participating countries in English and French. All Contracting Parties should provide the support needed by the Joint Audit Team for collecting information and data from entities involved in this Joint Audit.



**Article 5**  
**- Nature of the audit**

The audit should cover compliance and performance auditing. Emphasis should be placed on evaluating effectiveness, economy, efficiency and the sustainability of actions undertaken by partner States in implementing the agreements and in complying with regulations on Lake Chad.

**Article 6**  
**- Objective of the audit**

The objective of this audit would be to verify whether the Signatory States of the N'Djamena Convention comply with the standards and best practices of better water and resource management with a view to restoring Lake Chad to its previous surface area.

The audit should also include an analysis of environmental issues, the reports of the entities involved, the means and methods implemented in order to resolve and monitor the environmental problems of Lake Chad.

The specific objectives of this audit will be defined at the end of the Joint Audit planning meeting.

**Article 7**  
**- Duration of the audit**

The audit will be carried out during the period 2012 to 2014.

**Article 8**  
**- Methodology**

The methodology used should comply with:

- INTOSAI's auditing standards (environmental, performance and compliance),

- The guidelines of AFROSAI and its Linguistic Sub-Groups,
  - National auditing standards.

**Article 9**  
**- Audit criteria**

The Contracting Parties should all apply the same audit criteria with a view to facilitating comparisons at an international level.

Auditing issues should be evaluated from the point of view of compliance with the regional agreements that have been signed as well as with national and international regulations concerning Lake Chad.

The final auditing criteria to be used within the framework of this audit should be defined at the end of the planning meeting for this Joint Audit.

**Article 10**  
**- Audit teams**

The CHAD CHAMBER OF ACCOUNTS

(2 or 3 members)

THE CAMEROON SUPREME STATE AUDIT OFFICE

(2 or 3 members)

THE AUDITOR-GENERAL OF NIGERIA

(2 or 3 members)

THE NIGER COURT OF AUDITORS

(2 or 3 members)

THE INSPECTORATE-GENERAL of the CENTRAL AFRICAN REPUBLIC  
(2 or 3 members)

External experts from other SAIs or other Organisations may also join the Audit Team as necessary.

**Article 11**  
**- Audit schedule**

The Joint Audit will be officially launched on the date of signature of the Memorandum of Understanding. The Joint Audit report should be finalised and made public by December 2014 at the latest.

**Article 12**  
**- Responsibilities**

**Audit schedule:** each Contracting Party should ensure that the Joint Audit is included in its annual audit planning for 2013 and 2014;

**Coordination of the Audit:** the Chad SAI will act as Coordinator for this joint Audit. At the same time it will also fulfil the function of the audit secretariat;

**Selection of members of the Audit Team:** each Contracting Party should appoint two (02) or three (03) SAI representative members to this Joint Audit. Furthermore, each SAI should, from amongst these two (02) or three (03) representative members, appoint one (01) member who is specially assigned and available for this audit and who would act as focal point and would be given the task to represent the SAI during planned international trips in the framework of this Joint Audit. Each Contracting Party should appoint these two (02) or three (03) members, one of whom would be the focal point, by official letter addressed to the Coordinator of the Joint Audit.

**Quality assurance and supervision of the audit:** The Contracting Parties will be responsible for quality control at all stages of the Joint Audit. The Coordinator of the Joint Auditor should also institute an external quality assurance system for this Joint Audit.

**Financing the Audit:** financing this Joint Audit will be shared between the various Contracting Parties according to the Joint Budget attached below. Similarly, at the end of the planning meeting, the Contracting Parties should in consultation with the CREFIAF Secretariat and the AFROSAI WGEA, undertake all the necessary steps to obtain additional financing from their technical and financial partners.

**Participation of Contracting Parties:** the participation of Contracting Parties may be limited. An appeal is made to all parties to provide comparative data as indicated in the various questionnaires (Annexure 4).

### **Article 13** **- Publication**

The Contracting Parties undertake to exchange all information and conclusions on the Joint Audit in English and French. The audit Coordinator should draw up a draft joint report with the Cameroon SAI. The final joint report should be completed and published in December 2014 at the latest.

This joint final audit report will be submitted to the following recipients, in accordance with the communication plan attached in Annexure 3:

- the Governments of countries bordering Lake Chad,
- the Parliaments of countries bordering Lake Chad,
- the CEMAC (Central African Economic and Monetary Community) Parliament,
  - the Pan-African Parliament,
  - the African Union Commission,
  - The CEMAC Commission,
- all the other stakeholders involved.

#### **Article 14**

##### **- Amendments and modifications**

The other Contracting Parties should be informed immediately if one of the Contracting Parties wishes to make any modifications or changes to this Memorandum of Understanding.

#### **Article 15**

##### **- Exchange of information**

The exchange of information between Contracting Parties, including future consultations and meetings, should be approved as required in terms of the cooperation agreement. For this purpose, means of communication such as meetings, telephone conferencing, letters in hard copy and electronic messaging, amongst other means, should be used. All official documents relating to cooperation between the Contracting Parties should be drawn up in French and English.

#### **Article 16**

##### **- Translation of documents**

The Cameroon SAI will be responsible for translating the documents into English.

#### **Article 17**

##### **- Dissemination of information**

The results of the Joint Audit will mainly be disseminated through a joint report published in electronic format. Furthermore, other forms of hard-copy publication such as newspaper articles, brochures and others may be used.

**Article 18**  
**- Further information**

The following annexures form part of this Memorandum of Understanding and provide further details on the Joint Audit.

- the Joint Audit Schedule;
- the Joint Audit Budget;
- the Communication Plan;
- responses to questionnaires sent to the Contracting Parties.
- 

**Signed in N'DJAMENA,**

For Chad,

Name: OUSMANE SALLAH IDJEMI

Title: Chairman of the Audit Branch of the Supreme Court

Name: FATIME ASSARAH ABDEL-AZIZ

Title: Senior Auditor, Focal Point of the Audit

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For Cameroon,

Name: Alfred ENOH

Title: Director Training and International Relation, representing the Minister Delegate, Supreme State Audit Office of Cameroon

Name: Celestin ANKAMTSENE MGBOA

Title: Performance Audit Specialist, Supreme State Audit Office of Cameroon,  
Focal Point of the Audit

---

For Nigeria,

Name: SAMUEL T. UKURA

Title: Auditor General

Name: Adolphus A. AGHUGHU

Title: Deputy Director of Audit, Focal Point of the Audit

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For Niger,

Name: Mrs Eliane ALLAGBADA

Title: Chairman of the Audit Court

Name: Mrs ISSOUFOU LADI ADAMOU

Title: Senior Auditor, Focal Point of the Audit

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ANNEXE 2:

RESPONSE FROM THE LAKE CHAD BASIN COMMISSION'S EXECUTIVE SECRETARIAT

COMMISSION DU BASSIN DU LAC TCHAD



LAKE CHAD BASIN COMMISSION

BOITE POSTALE 727 N'DJAMENA - TCHAD  
Tél. : 00235 22 52 41 45 / 22 52 40 29 Fax : 00235 22 52 41 37  
E-mail : cblt\_lcbc@yahoo.com

Réf 044 /2015/SE/CBLT/02/033

N'Djamena, le 06 FEB 2015

A

Monsieur le Premier Président de la Cour  
des Comptes du Tchad

Objet : Réponses de la CBLT aux constats  
de l'audit conjoint sur l'assèchement du Lac Tchad.

Monsieur le Premier Président,

J'ai l'honneur de vous faire parvenir les réponses et commentaires de la  
CBLT sur l'audit environnemental sur l'assèchement du Lac Tchad.

Nous avons fortement apprécié la qualité du rapport, notamment les  
constatations et les recommandations faites à l'égard des organes de la CBLT en  
vue de la mise en œuvre des bonnes pratiques de gestion intégrée et durable des  
ressources en eau du Bassin du Lac Tchad.

Veuillez agréer, Monsieur le Ministre, l'expression de ma très haute  
considération.

P.J : Observations sur l'audit.

Le secrétaire Exécutif  
  
Sanusi Imran ABDULLAHI



## **RESPONSE OF THE EXECUTIVE SECRETARIAT OF LCBC ON THE OBSERVATIONS AND RECOMMENDATIONS OF THE JOINT ENVIRONMENTAL AUDIT CONDUCTED ABOUT THE SHRINKAGE OF LAKE CHAD**

After reading through the document on the environmental audit conducted about the receding of Lake Chad, the Executive Secretariat of LCBC provides the following explanations, remarks and amendments on the observations and recommendations proffered by the auditors, specifically on chapter 4: the Lake Chad Basin Commission.

### **DETAILED OBSERVATIONS**

#### 2.1 : Strategic Action Programme (SAP)

2.1.1 and 2.1.2. All the NAPs/IWRM of LCBC member countries developed under the aegis of the Executive Secretariat for the promotion of the Integrated Water Resources Management (IWRM) fall in line with the implementation of national policies and strategies for the mobilization of national natural resources in line with the sustainable development. As such, their objectives derive from policies and strategies (SDRP (Master Plan for Poverty Alleviation) and SDR – Master Plan for Rural Development) of member countries. These NAPS enabled to develop the SAP which was designed in a participatory process (member countries, civil society organisations, LCBC, and development partners) which took into consideration actions and needs of member countries identified in the NAPs although it handles transboundary environmental issues. All the objectives of NAPs/IWRM are in line with the SAP objectives, namely the Objectives of the Quality of Ecosystems and Water Resources (OQERE) that are implemented by LCBC through annual programmes of activities.

As part of the process leading to the development of SAP, in addition to the six (6) NAPs from member countries, there are three Management Plans of Sub-basins, notably, Komadugu Yobe (Nigeria-Niger), Lake Fitri (Chad). This outlines how the SAP lays emphasis on the actions and needs of riparian countries at the transboundary level.

The SAP is also flexible as it can be reviewed each five year. Presently, the review process of SAP is underway taking into account the developments recorded in the basin since its adoption in 2008. The rational management and protection of water resources constitute the key subject of SAP since the first two objectives (OQERE1 and 2 ) on the improvement of the quantity and quality of water resources of the Lake Chad basin and the restoration, conservation and sustainable utilization of the resources of the basin contribute to the protection and sustainable management of water resources

of the Lake Chad basin. However, we agreed that some shortcomings noted in the audit report could make difficult the achievement of the sustainable protection and utilization of the water resources.

- 2.1.3 The hitches observed on the coordination of actions planned and the cost sharing mechanisms for the implementation of five-year plans are relevant and need to be corrected and clarified. However, SAP is a genuine platform for the promotion of the IWRM and the protection of the water resources of the basin. Those weaknesses should be resolved through the implementation of the Water Charter, namely its appendix on the protection of the environment.

Regarding the Strategic Planning, the Executive Secretariat of LCBC developed the following documents: Master Plan (1992), Strategic Action Plan (1998), Strategic Action Programme (2008), National Action Plans on the IWRM (2008-2009), Operational Planning 2014-2017 (2014), etc. LCBC has a Wood-Energy Master Plan, a Master Plan to Control Siltation and Water Erosion and a planning tool on the management of water resources, which is the Planning and Water Allocation Model.

Some activities of PRODEBALT such as the construction of schools, health centres, tree-planting, etc., were identified and carried out by technical services of member countries and national NGOs through conventions with LCBC. So, there is neither overlapping nor incoherence.

- 2.1.4 The Executive Secretariat has never issued its annual performance report but is committed to reviewing the SAP, conducting the mid-term evaluation of the FYIP, drawing the mapping of interventions in the basin and publishing the report on the state of the ecosystem of the basin in early 2015.

- 2.2 All the remarks and observations made on the mandate and missions of LCBC (legal instruments) are true and relevant. The mandate and missions of LCBC should be re-oriented making it a real basin organisation, which targets the implementation of best practices on the integrated management of water and natural resources ahead of a harmonized development of the basin and the welfare of people living in this region.

Nonetheless, the Water Charter of the Lake Chad basin, which was adopted by the Heads of State and Government of LCBC and ratified so far by three member countries out of six, specifies and complements the basic instruments of the Convention, which creates LCBC. It takes into account the modern management principles and rules of watercourses and international lakes implemented during the past four decades.

It is worth noting that LCBC should not ensure the water allocation among its member countries. LCBC should instead manage to favor the compliance with fundamental principles of the IWRM spelled out by the Water Charter and its appendices, namely the sustainable development, the cost and benefit sharing,

the solidarity, equity, environmental good governance and complementary principle, etc...

The implementation of recommendations proffered on this sub-chapter is of paramount importance as it will transform LCBC in an effective basin organisation in line with the Water Charter and the updated SAP.

- 2.3 Presently, member countries of LCBC fail to comply with the maximum water utilization levels due to the non-enforcement of the Water Charter. Three countries have already ratified it, a fourth country is expected to make it effective. When the Water Charter enters into force, it will become a supranational law, which compels all member countries to get adapted and update their national laws as all appendices should be followed by implementing legislations in each member country.

With regards to the recommendation of this paragraph, LCBC has made a step forward about the rehabilitation and renovation of measurement stations through modern and adapted equipment as part of the Programme (PRESIBALT) which will be executed thanks to the AfDB funding of which 34% are dedicated to the activity above. The Projects Lake Chad- Hycos in the pipeline, the institutional support of the German Cooperation and the GEF/UNDP project mainly focus on the management of equipment and databases.

Regarding the Water Charter, relevant measures were taken and/or are underway (sensitization workshops and seminars) to encourage and favor its ratification by member countries.

- 2.4 Data collection should be achieved if data are available in the member countries. The unavailability of data at LCBC is due to the inactivity of stations or the non-compliance by member countries with a MoU signed about data and information sharing, or sharing and storage structures are yet to be set up. This entails the unavailability of reliable data.

The Executive Secretariat checked the existence (functioning) or non-functioning of hydrometric and rainfall observation networks of member countries and committed to supporting them. This applies to the Chadian hydrometric network of which status was evaluated and the nature of works to be performed and materials estimated for works which could start in April-May 2015 and funded by LCBC. In addition, the hydrogeological network comprising six new boreholes (piezometers) and 15 old boreholes to be cleaned will be constructed in February-March 2015 with the assistance of PRODEBALT.

The recommendations are applicable if all countries really want to share data and information in line with the MoU signed in 2008. However, the Executive Secretariat is setting up an integrated information management system (a regional database and a server).

2.5 All the remarks are true and draw our attention. The Executive Secretariat tried to adopt harmonized rules for the sustainable management of water resources of the basin but this move was not successful.

1) The first one was issued at the 9<sup>th</sup> ordinary session of the Council of Ministers held in June 1969 in Yaounde, soliciting the assistance of the UNFAO for the formulation of common rules on the surface water sharing in the basin among the member countries. The legislative office of FAO prepared a draft MoU on the utilization and conservation of water, which was submitted to member countries and updated during the 13<sup>th</sup> ordinary session of the CoM in 1971; a recommendation was then proffered in favor of a comprehensive study to be conducted by the legal departments of member countries. The outcome of this study is still awaited;

2) The second attempt was by the Permanent Technical Committee on Water Resources, which developed and discussed in 2007, a draft MoU on the equitable and reasonable utilization, development, conservation, management and protection of international waters of the basin, which did not succeed due to various reasons on which the Water Charter drew inspiration.

All the weaknesses pointed out will be resolved while the Water Charter is effective when all the appendices are drafted, approved by the Council of Ministers and enforced in the member countries.

2.6 All the remarks (shortcomings, weaknesses, poor governance, etc...) are real and captured the attention of the Executive Secretariat. As concerns the financial and administrative management, LCBC is fine-tuning now a manual of administrative, financial and accounting procedures, which will be validated soon.

To be in line with the functions of a basin organisation, a new reform is being finalized. It is worth noting that all the vacant posts available in 2014 while the joint audit team arrived at LCBC, were filled in the meantime.

### **3. CONCLUSIONS OF THE AUDIT**

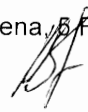
This is about the summaries and paragraphs from 2.1 to 2.6 and the observations and responses of LCBC are provided above.

### **4. RECOMMENDATIONS**

The Executive Secretariat takes note of all the recommendations and solicits the support of Higher Public Finance Audit Institutions (ISC) of its member countries for their implementation.

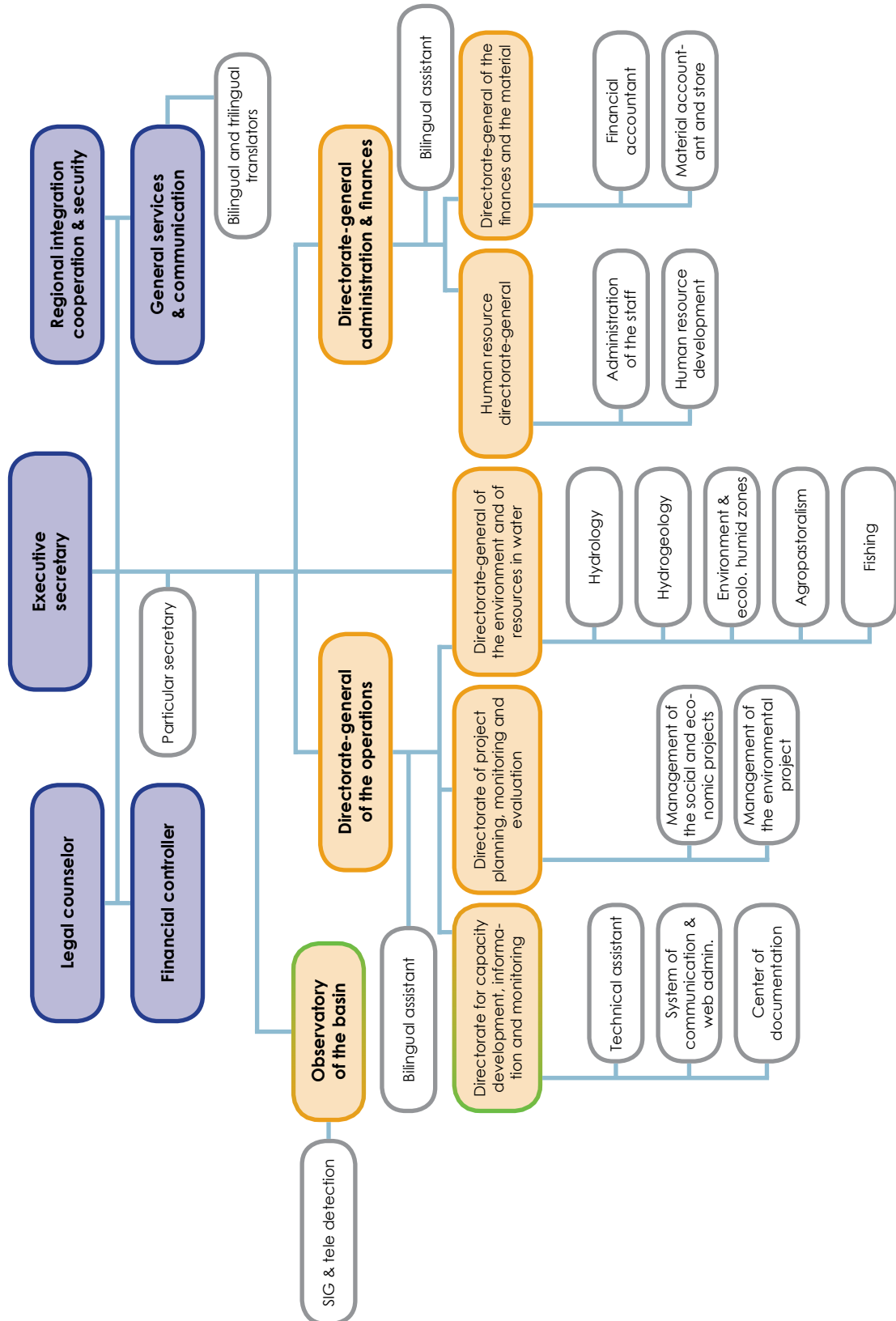
The Executive Secretariat suggests that a roadmap for the monitoring of these recommendations by national ISC be included in the audit report.

Issued in N'Djamena, 5 February 2015

A handwritten signature in black ink, appearing to be the initials 'BF', is written over the date '5 February 2015'.

ANNEXE 3:

ORGANIZATIONAL CHART OF THE LAKE CHAD BASIN COMMISSION'S EXECUTIVE SECRETARIAT



Source: Executive Secretariat of the LCBC.

## ANNEXE 4:

### SCIENTIFIC REFLECTION ON THE ISSUE OF TRANSFERRING WATER FROM THE UBANGI RIVER TO LAKE CHAD

#### **SCIENTIFIC REFLECTION ON THE ISSUE OF TRANSFERRING WATER FROM THE UBANGI RIVER TO LAKE CHAD**

**By Dr. NJIKE NGAHA Pierre Ricard,**

PhD in Science, Basin Geophysicist

Head of the Political Sciences and Planning Division in the  
Ministry of Scientific Research and Innovation in Cameroon

Vice-Chairman for the Sub-commission of the UNESCO Intergovernmental  
Oceanographic Commission for Africa and Adjacent Islands

Lake Chad has lost almost  $\frac{3}{4}$  of its former size within a few decades, due to a combination of multiple phenomena ranging from natural to less natural such as: drought (desertification), demographic pressure, the accumulation of mud and sand, invasion of weeds, and eutrophication. All this progressive stress on the natural environment has not seen coordinated, effective and methodically evaluated management. The recommended solutions seem to clash with the survival instinct of the populations living on the shores, of which the water needs increase as the availability of water decreases exponentially.

The present situation of Lake Chad is well known. We see that the waterlogged area of Lake Chad has drawn away from the borders of certain states, who now find themselves in a position of no longer being able to provide nor receive water of this lake.

Throughout the slow shrinking process of Lake Chad, the nature of socio-economic activities of the lakeside residents also adapted and the land surface areas have seen new village settlements of which the residents are actively involved in agriculture, animal husbandry and serious trading.

The situation in this area today is of such a nature that one must ask if the result of a cost-benefit analysis of the impact of transferring water to restore Lake Chad will be in favour of its replenishment.

#### **SOCIAL IMPACT**

Replenishing *Lake Chad* will certainly take place in less time than it took to lose all of this water. This will force hundreds of thousands of people to hurriedly clear the areas that will be re-submerged, thus causing serious problems in the stability of health, education, nutrition – in short, it will cause overall destabilization in the region.

To avoid these social troubles, any coordinated efforts of resettlement will require a very long and expensive implementation process, and for no significant return on investment.

### **ECONOMIC IMPACT**

The main economic activities in the areas of emerged land where populations of various origins came to settle in search of arable land and pastures with no costs, are subsistence farming and extensive animal husbandry, since fishing is no longer productive or profitable.

The financial contribution and the occupation and employability rate of agricultural and commercial activities will most probably be more important than that of non-industrial fishing, even if Lake Chad is to be restored.

### **ENVIRONMENTAL IMPACT**

The Logone and Chari rivers, the biggest watercourses flowing into Lake Chad, have relatively slow-moving waters, going through seasons where the water is stationary or flowing in the opposite direction, or even dried up.

It will be through these rivers that the water captured from the Ubangi must be taken to Lake Chad by making use of a channel through the mountainous interfluvium in the north-west of the Central African Republic. This enormous operation for which the ongoing control and maintenance costs alone will not be given, entails potentially harmful factors to the conservation of the little bit of Lake Chad that is still left. It involves huge amounts of solid detrital elements (breccia or medium to fine sand, and kaolinitic clay) that will be carried away by the torrential energy created at the exit of the channel through the mountains and on the northern slope of the upstream terrain before reaching the river(s). The river profile will gradually change over time through the changes in riverbed erosion in the upstream and mid-segments, resulting in downstream alluvial deposits effectively into Lake Chad, which in the long run will likely be completely filled with sediment instead of water.

This type of water transfer is very rarely found in the world and does not exist anywhere over such a long distance or in a similar geomorphologic context generating such quantities of detrital elements.

Given that the banks of the Logone and Chari rivers are fragile and not very high, an increase in their water volume and flow might lead to severe floods in the riverside regions and cause social and economic damage in Cameroon as well as in Chad.

Furthermore, catchment of some of the Ubangi's waters for transfer to Lake Chad might deprive the hydrographical basin of the Congo of a good deal of its potential. This is the main reason given by CICOS (*International Commission of the Congo-Ubangi-Sangha Basin*) for expressing its reluctance to give consent to the water catchment from the Ubangi.



## **INSTITUTIONAL IMPACT**

The complete closure of Lake Chad will cause an incalculable loss of money poured into the water transfer project from the Ubangi, in the ineffective operation of the LCBC over decades, and would logically entail the abolition of the LCBC, whose only purpose is directly linked to the existence of this lake.

The structures that will be built in the Ubangi basin and the transition area towards the Chari and Logone, will be of such a strategic nature to the Member States of the LCBC that it would be necessary to constantly see to it that good relationships are maintained between these states and those of CICOS through a Framework Agreement, Convention or Memorandum, which should establish the fair distribution of responsibilities in support of the stability of the sub-region. In any event, the Member States of CICOS, who must agree to give up a part of its hydrological potential, will have the right to benefit from certain collateral gains (hydroelectricity, drinking water, etc. ...) from this project which will therefore assume the status of common property, beneficial to everyone.

## **SECURITY IMPACT**

A project of this scale can't help but be the perfect target for sabotage with a view to destabilize the user states. This aspect of the analysis requires that the setting up of a security system for all infrastructures to be built must be taken into account.

## **CONCLUSION**

The feasibility study of the water transfer project from the Ubangi to Lake Chad has coldly presented a natural context that is constantly against the improvement of Lake Chad's situation in the light of the persistent nature of factors that aggravate causes related to the hydrology, hydraulics, geomorphology, soil science, sedimentology, socio-economics, etc., of the lake's basin.

Three scenarios of the interbasin water transfer project between the Ubangi and Lake Chad have been studied and of which only one was considered to be realistically advisable. The model was chosen because it consists of a combination of a water containment on the Ubangi side (on the Kotto River) to increase the water level, a gravity flow across the ridge of the interfluvium (the water divide between the Ubangi and Lake Chad basins) and developments on the Lake Chad side for regulating transfer flow-rate to the Chari and/or Logone river(s). The cost of the gravity transfer via the Kotto is lower (1 900 billion CFA Francs) than that of a pumping transfer with oversized drainage channels for the interfluvium crossing (3 500 billion CFA Francs), which was also recommended.

Although technical feasibility comes with some measures to increase the average flow of the tributaries of Lake Chad and to mitigate the natural risks of silting, the degradation of the shores, eutrophication and plant invasion, the fact remains that

several detailed multi-sector impact studies must be carried out in order to definitively convince or dissuade the clients, who are the States Parties.

CICOS has also already requested for an environmental impact study for the water transfer project from the Ubangi to Lake Chad to be done on a section of the Congo River basin to complete the basic feasibility study.

In effect, the feasibility study itself acknowledges that extensive studies are needed for a more logical evaluation that takes into account the outcome of the complete or partial replenishment of Lake Chad in all its socio-economic and environmental aspects. And most importantly that the new balances currently observed could be destroyed for situations or solutions that are less advantageous or even disastrous for the stability of the sub-region.

In addition to the impact study required by CICOS, the LCBC must carry out another comprehensive study on all the riparian areas along the water transfer from the Ubangi to Lake Chad.

This reflection, based on scientific convictions, would like special attention to be given to the specific impacts mentioned at the beginning.

**The big question that must be asked at the moment is to know exactly in what way it will benefit to return to the former state of Lake Chad.**

Common sense suggests that the emersion of much closer borders between several countries (Cameroon, Niger, Nigeria, and Chad) in a relatively small area of the Lake Chad region encourages trade and makes it easier to control migrations.

Besides, why not study measures to be considered for sustainably maintaining the current size of Lake Chad?

**Dr. NJIKE NGAHA Pierre Ricard**

## ANNEXE 5:

## STATUS OF THE NETWORK OF WATER IMPOUNDMENTS AND DAMS IN LAKE CHAD AND ITS TRIBUTARIES

State	Name of the dam	River	Functional level	Completed	Surface of the reservoir (km <sup>2</sup> )	Surface Catchment (km <sup>2</sup> )	Mean Inflow (10 <sup>6</sup> m <sup>3</sup> )	Volume (10 <sup>6</sup> m <sup>3</sup> )	Irrigated area (ha)
<b>Komadugu-Yobe Basin</b>									
<b>Nigeria</b>									
Kano	<b>Tiga</b>	Kano	E	1975	180 (140 in 2006)	6 640	1 059	<b>1 345</b>	26 000
Jigawa	<b>Hadejia</b>	Hadejia	E	1992	20	25 900	DND	<b>1 140</b>	12500 ha developed, 2200 irrigated in 2003
Kano	<b>Challa-wa</b>	Challa-wa	E	1992 - 2005	100	3 859	589	<b>930</b>	12 500
Kano	Gari Marke	Gari	E	1980	33,18	1 155	140	<b>214</b>	4 400
Borno	Alau	Ngadda	E	1992	50	4 105	164	<b>112</b>	2 000
Kano	Watari	Watari	E	1980	19,6	653	89	<b>105</b>	1 500
Kano	Jakara	Jakara	E	1976	16,6	559	43	<b>65</b>	2 000
Kano	Tomas (near Kunya)	Tomas	E	1976	15	585	28,3	<b>60</b>	1 800
-	Gari (Dambo near Kazaure)	Gari	E	1980	3,7	DND	DND	<b>60</b>	DND
Kano	Kafin Chiri	Jatau, Dudurun	E partially collapsed in 2001	1977	8,4	225	35,67	<b>31</b>	660
Jigawa	Gun-guzu	Gun-guzu	E	1979	6,4	106	18,7	<b>25</b>	526 (small scale)
Bauchi	Galala Galaga	Galala	E	1982	4,1	462	DND	<b>23</b>	2 500
Kano	Bagauda	Kura	C (in 1988)	1970	3,8	207	39,3	<b>22</b>	610

Kano	Tudun Wada	Waina Kano	E	1977	3,5	85	14	<b>21</b>	360
Kano	Maga-ga	Maga-ga	E	1990	3,7	119	20,91	<b>20</b>	600
Kano	Karaye	Muk-agara, Kurma	E	1971	2	80	14,145	<b>17</b>	DND
Kano	Pada	Pada	E	1980	4,1	62	11	<b>12</b>	200
Jigawa	War-wade	Dudurun War-wade	E	DND	5,3	106	7,69	<b>12</b>	240
Kano	Ibrahim Adamu	Warwar Rafi, Tuwari	E	1974	2,6	DND	DND	<b>8</b>	DND
Kano	Marashi	Marashi Challa-lawa	E	1980	2,2	43	9	<b>7</b>	DND
Jigawa	Birnin Kudu	Dog-walo, Wasa, Sanga, Karufi	E	1970	6,5	40	DND	<b>1</b>	DND
-	Mo-hamed Ayuba	Watari	E	1975	DND	DND	DND	DND	DND
Bauchi	Malad-umba	Lake Malad-umba	E	DND	2	DND	DND	DND	DND
Kano	Ruwan Kanya	Kano	E	1976	7,5	DND	DND	DND	DND
-	Tso-howar Gwar-am	tributary to Jama'are	E	DND	DND	DND	DND	DND	DND
-	Dogola	tributary to Jama'are	E	DND	DND	DND	DND	DND	DND
Kano	Rimin Gado	Rimin Gado Jakara	E	1979	0,095	5	0,9	<b>0</b>	DND
Bauchi	<b>Kafin Zaki</b>	Bunga	U	DND	235	DND	DND	<b>2 700</b>	84 000
Bauchi	Kawali	Bunga	U	DND	27	DND	DND	<b>72</b>	DND
Bauchi	Waya	Waya	U	DND	0,00016	DND	DND	<b>30</b>	DND
-	Kango	Kango	U	DND	2,6	41	DND	<b>9</b>	DND
-	Gulka	Gulka	P	DND	83,7	DND	DND	<b>597</b>	DND
Borno	Liman-kara Guoza	Liman-kara	DND	DND	1,1	83	DND	<b>320</b>	DND
Bauchi	Misau	Zala	P	DND	11,8	2 344	DND	<b>46</b>	1 500
Yobe	Fune (dam)	Gokwoli	P	DND	15	855	DND	<b>14</b>	DND
-	Fune (div)	Dakwa-lo	P	DND	DND	648	DND	<b>10</b>	DND

-	Ribadu	Rafin Ribadu	P	DND	DND	121	DND	8	DND
-	Moku	Yangari	P	DND	DND	165	DND	6	DND
Borno	Jemjeri Damboa	Jemjeri	DND	DND	2,3	171	DND	6	DND
Jigawa	Dogala	Dakwa-lo	P	DND	5,3	DND	DND	5	DND
Plateau	Delimi	Delimi	P	DND	DND	DND	DND	DND	1 000
Bauchi	Darazo	Wupai	P	DND	DND	990	DND	DND	DND
-	Gulani	-	P	DND	0,8	10	DND	0	DND
Plateau	Jengre	Jengre	P	DND	DND	DND	DND	DND	250
-	Jido	-	P	DND	DND	DND	DND	0	DND
-	DND	Iggi	P	DND	DND	DND	DND	DND	DND
-	DND	Kiyako	P	DND	DND	DND	DND	DND	DND
-	Mandarigirau	Hawa	P	DND	3,5	85	DND	1	DND
Borno	Misau	-	DND	DND	DND	DND	DND	DND	DND
Borno	-	Yangari	DND	DND	DND	DND	DND	DND	DND
Borno	Ribadu	-	DND	DND	DND	DND	DND	DND	DND
-	Rimin Garo	-	P	DND	1	5	DND	0	DND
<b>Chari-Logone and Yaere-Yedseram Basin</b>									
<b>Cameroon</b>									
Far North	Maga	M. Tsanaga	E	DND	400	DND	DND	600	DND
<b>West / Adama</b>	Foumban	Vina	P	DND	340	DND	DND	2 800	DND
Far North	Mokolo	M. Tsanaga	E	DND	1	DND	DND	DND	DND
<b>Nigeria</b>									
-	Alau	Ngadda	E	1992	50	DND	DND	112	DND
<b>Chad</b>									
-	Goré	Pendé	P	DND	300	DND	DND	5 000	DND

Source: Executive Secretariat of the LCBC

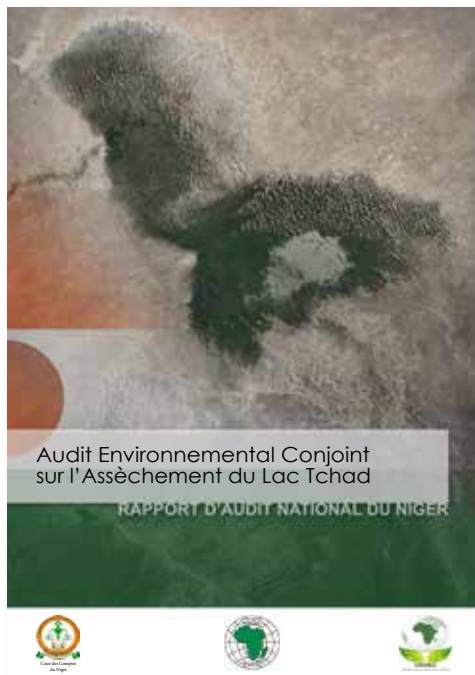
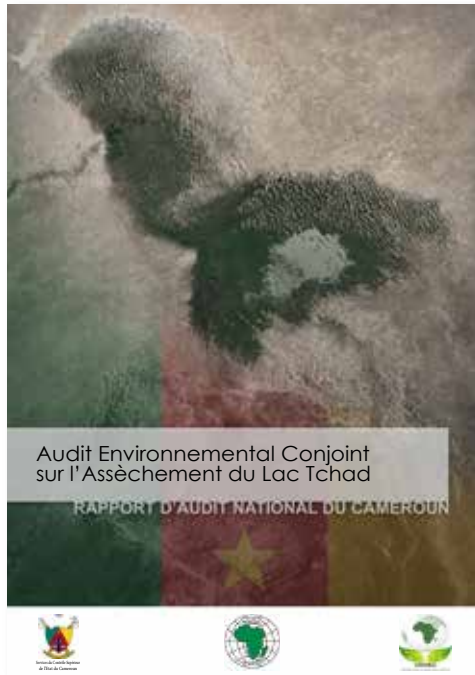
Key:

<b>E</b>	Existing
<b>P</b>	Projected
<b>C</b>	Cancelled
<b>U</b>	Under construction
<b>DND</b>	Data not available

ANNEXE 6:

NATIONAL AUDIT REPORTS

The national audit reports of the SAIs of Cameroon, Niger, Nigeria and Chad are annexed to this report.



## ANNEXE 7:

### PRESENTATION MEMORANDUM ON THE PERFORMANCE AUDIT

#### 1. Context

During the performance audits, the entities involved often want to know how the work will proceed and how they will have to contribute to it. This memorandum was drawn up to answer their questions.

With a better understanding of the steps involved, it will be easier for them to contribute to the success of the project, from which all the parties concerned must benefit.

This guide firstly explains the performance audit and presents the foundation for the Supreme Audit Institutions' (SAIs) intervention. The different stages of the audit work are then described, and the cooperation expected from the audited entities explained.

#### 2. Performance audit carried out by the SAIs

The SAIs of Cameroon, Niger, Nigeria and Chad have jointly decided to conduct performance and environmental audits along with the other activities that fall within their respective mandates.

These two types of audits aim to evaluate and report on the means used by the entities for efficiently managing their resources in the interest of economy and sustainable development, as well as the effectiveness of implemented programmes. Its actions take account of the current management framework of the government based on results as well as sustainable development.

Within this framework, the four SAIs will examine the systems, controls and management practices of the entities or administrations by focusing on the results achieved. When this work is completed, the SAI will prepare a report for the audited entity and all the other Institutions or authorities representing the citizens of the riparian countries of Lake Chad. This report will include the findings, conclusions and recommendations of the audit.

To recall, SAIs are institutions with the task of fostering control over funds and other public property, through audits and training for the benefit of all the citizens of their respective countries.

It will carry out its work under the applicable laws and regulations in each country and strive to comply with the INTOSAI auditing standards. The SAIs will also ensure that the auditors – the members of the audit engagements – carry out their work independently, objectively, respectfully and thoroughly.

In order to ensure that the exercise can take place in a climate of trust and serenity, the SAs will favour a collaborative approach and ongoing communication with the entities involved.

The objectivity of the performance audit work, especially in the SAs' independence from the audited entities: This principle implies that the auditors must observe restraint and distance so as to not get involved in the management decisions of the entities. The entities are also required to avoid situations that can reduce this independence.

It should also be emphasized that the SAs have the right of full access to and may obtain all the information that they deem relevant and necessary to perform their audit. They will however undertake to keep the information obtained confidential by meeting the applicable security and confidentiality standards in the entities and controlling access to its files. Reciprocally, the entities must handle all audit reports in a confidential way until it is published by the SAs.

### 3. The stages of the performance audit and the SAs' expectations of the administrations and audited entities

There are various stages involved in a performance audit - from the first contact between the audit engagement and the audited entity up to the writing of the audit report. The entity's cooperation is essential through all the stages.

Stages	Expectations for the audited entity
1. First contact	<ul style="list-style-type: none"> <li>• Appointing a respondent or focal point</li> <li>• Making arrangements to accommodate the auditors (communiqué, physical installations, access codes, etc.)</li> </ul>
2. Preliminary study	<ul style="list-style-type: none"> <li>• Responding to the auditors' inquiries (information, interview, etc.)</li> <li>• Commenting in writing on the preliminary study report</li> </ul>
3. Detailed examination	<ul style="list-style-type: none"> <li>• Responding to the auditors' inquiries (information, interviews, etc.)</li> <li>• Commenting on the facts examined and the findings</li> </ul>
4. Report	<ul style="list-style-type: none"> <li>• Commitment from the leader to keep the report confidential</li> <li>• Formulating the entity's comments on the draft report</li> <li>• Approval from the leader on the facts and all the recommendations</li> <li>• Conveying the official comments of the entity so as to include it in the report</li> </ul>



## 4. Points on some of the stages

### 4.1. Detailed examination

During the detailed examination, the auditing team has to conduct an in-depth review of certain activities and identify the strengths and weaknesses. They will also gather audit evidence to support their findings and conclusions.

At the end, the team must make conclusions against the established audit objectives.

Several procedures may be performed, but the following are the most common:

- meetings and interviews with the employees of the entity;
- analysis of documents and files;
- consulting the database;
- comparisons;
- conducting surveys;
- observation of activities.

The cooperation of the staff and managers of the entity is essential throughout this stage – not only to facilitate the collection of the necessary information for the audit, but also to promote an understanding of the context in which the activities take place.

As the information is gathered, the auditors must do their best to confirm the accuracy of the facts with the managers, in order to ensure the validity and completeness of the audit evidence. When the detailed examination is completed, the auditing team will meet with the representatives of the entity to share the main findings with them. This will give the representatives the opportunity to express their point of view, and the comments exchanged at this point will be taken into account when writing the report.

### 4.2. Writing of the audit report

The audit report is primarily meant for the audited entity and the competent Institutions or authorities representing the citizens of the riparian countries of Lake Chad (national or regional parliaments), and also for international organizations etc.

The contents of the report will present the relevant information on the audited fields and will state the findings, conclusions and recommendations following from the audit. During this stage, which precedes the filing of the report, the SAs will give each entity involved the opportunity to review the draft report and to comment on it.

Here are the main stages leading up to the finalization of the report:

- commitment from the leader of the entity to keep the contents of the report confidential;
- forwarding correspondence from the auditors to the leader containing elements of a draft report;
- comments from the entity on the content of the draft report, accompanied by endorsement of the accuracy of its factual information and the examples that support the findings, as well as by indications of whether the entity accepts each recommendation or not;
- where the entity does not agree with a recommendation, a brief explanation is required;
- if necessary, having a meeting between the auditing team and the representatives of the entity in order to discuss the comments received and, if need be, to obtain different information supporting the entity's position;
- forwarding new correspondence, if necessary, containing the new conclusions of the report to the leader;
- conveying official comments by the leader on behalf of its entity for publication in the final report.

## **5. Results of the audit: monitoring the implementation of recommendations**

The work of this audit engagement, as far as performance audits are concerned, requires follow-up by the SAIs to determine whether the recommendations made have been implemented and whether the measures have served to remedy the shortcomings observed.

Thus, for all performance reports, a systematic follow-up is undertaken some time after the audit.

The SAIs then call on the entities involved for the relevant information and facilitate the evaluation of the implementation of recommendations.

## ANNEXE 8:

### THE LAKE CHAD THE JOINT ENVIRONMENTAL AUDITING TEAM

The Supreme State Audit Services of Cameroon:

[www.crefiaf.org](http://www.crefiaf.org) and [secretariat\\_cri@crefiaf.org](mailto:secretariat_cri@crefiaf.org)

**Mr. Dieudonné KIMAKA**, *State Inspector;*

**Mr. Célestin Jean Blaise ANKAMTSENE MBGOA**, *Assistant Auditor, Audit Focal Point for Cameroon;*

**Mr. François Roméo BEKEMEN MOUKOKO**, *Assistant Auditor;*

**Mr. Emmanuel NDIORO**, *Audit Executive.*

**Prof. Mesmin TCHINDJANG**, *Environmental Geographer, Scientific Expert.*

Court of Auditors of Niger:

<http://www.courdescomptes.ne>

**Mrs. Lady ISSOUFOU**, *Advisor, Audit Focal Point for Niger;*

**Mr. Hamil MAIGA**, *General Counsel;*

**Mr. Abbou HALILOU**, *General Counsel;*

**Dr.-Ing. Yahaya NAZOU MOU**, *Hydrologist, Scientific Expert.*

Office of the Auditor-General for the Federal Republic of Nigeria:

<https://www.oaugf.ng/home>

**Mr. Adolphus AGHUGHU A.**, *Deputy Director of Audit , Audit Focal Point for Nigeria;*

**Mr. James O. AGADA.**, *Chief Executive Officer (Audit);*

**Miss Blessing Iveren Gum.**, *Audit Officer II;*

**Prof. Haruna KUJE AYUBA**, *Prof. of Biogeography/Environmental Science, Scientific Expert.*

Court of Auditors of Chad:

<http://www.coursupreme-tchad.org>

**Mrs. Fatimé ABDELAZIZ ASSARA**, *Chairperson of the Chamber of Control and Audit, Audit Focal Point for Chad;*

**Mr. Ratou ANDO**, *Advisor;*

**Mr. Mahamat Moustapha AMADOU**, *Advisor;*

**Mr. Mérina GANG GNY**, *Advisor;*

**Mr. Ahmat MAHAMAT SALEH**, *Hydrologist Hydro-geologist, Scientific Expert.*

## ANNEXE 9:

ORGANIZATIONS, AGENCIES AND INSTITUTIONS THAT PROVIDED SUPERVISION AND EXTERNAL SUPPORT IN THE PERFORMANCE OF THE JOINT ENVIRONMENTAL AUDIT ON THE DRYING UP OF LAKE CHAD:

African Organization of Supreme Audit Institutions (AFROSAI): [www.afrosai.com](http://www.afrosai.com)  
AFROSAI Working Group on Environmental Auditing (AFROSAI-WGEA);  
Office of the Auditor-General of Kenya: <http://www.kenao.go.ke>  
Court of Auditors of the Kingdom of Morocco: <http://www.courdescomptes.ma>  
Court of Auditors of the Kingdom of Belgium: <https://www.ccrek.be/FR/>  
Office of the Controller and Auditor-General of Tanzania: <http://nao.go.tz>  
National Audit Office of Estonia: <http://www.riigikontroll.ee>  
Canadian Comprehensive Auditing Foundation (CCAF-FCVI): <http://ccaf-fcvi.com>  
Good Financial Governance Programme in Africa, German Cooperation – GIZ:  
[www.giz.de](http://www.giz.de)

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