



Komadugu Yobe Basin, upstream of Lake Chad, Nigeria

Multi-stakeholder participation to create new institutions and legal frameworks to manage water resources



IUCN WATER PROGRAMME – DEMONSTRATION CASE STUDY NO.1

WATER AND NATURE INITIATIVE (WANI) CASE STUDY

KOMADUGU YOBE BASIN, UPSTREAM OF LAKE CHAD, NIGERIA

Authors: Stefano Barchiesi, Megan Cartin, Rebecca Welling and Daniel Yawson

Inappropriate water management practices in the Komadugu Yobe Basin, upstream of Lake Chad in northern Nigeria, changed the seasonal river flow and caused widespread environmental degradation. Coupled with this was fragmented regulation and conflicting responsibilities among institutions, a lack of coordination for hydro-agricultural developments, inequitable access to water resources and growing tensions and risk of conflicts among water users.

As a response to this situation, WANI and partners initiated a process of coordination and participation of all stakeholders in dialogue to reverse the trends in natural resources degradation in the basin through integrated management.

Stakeholder collaboration has resulted in a Catchment Management Plan, a Water Charter, new institutions and the empowerment of stakeholders to participate in planning and management of water resources to provide the necessary capacity to respond to stresses and shocks.

The reform of water governance is enabling the transparent coordination of water resources development, including remediation of degraded ecosystems and, eventually, restoration of the river flow patterns. Dialogue has reduced the number of cases of conflict and governments have pledged millions of dollars in new investment for basin restoration through the Hadejia-Jama'are-Komadugu-Yobe Basin Trust Fund.

With the changes underway in the basin, governments and communities are acquiring capacities to both learn and cope with uncertain future events.

Highlights

- A Water Charter adopted spelling out the agreed principles for sustainable development of the basin and the roles and responsibilities of governments and stakeholders. Borno State is the first to sign.
- The Catchment Management Plan (CMP) created to restore ecosystem services and sustain livelihoods and enterprise development needed to reduce poverty.
- Comprehensive Water Audit completed which provided essential knowledge of the basin for the conception of the CMP.
- Establishment of the Hadejia-Jama'are-Komadugu-Yobe Basin Trust Fund to finance implementation of the CMP and basin restoration.
- Establishment of new institutions for implementing IWRM basin-wide and nation-wide: State Integrated Water Resources Management Coalitions (SIWRMCs) for the Komadugu Yobe Basin states and the Nigeria Integrated Water Resources Management Commission (NIWRMC).
- Pilot interventions to improve the flow of the river by removing weeds and silt blockages, resolve conflict and strengthen livelihoods.

INTRODUCTION

A complex network of river systems

The Komadugu Yobe Basin (KYB) covers a total area of 148,000 km² divided between north-east Nigeria and south-east Niger with 95% of the basin's water in Nigeria. The basin is drained by two main river sub-systems: the Komadugu Yobe and the Komadugu Gana, with the Yobe River flowing into Lake Chad. KYB is a sub-catchment of the larger Lake Chad Basin, representing approximately 35% of the Lake Chad Basin, shared by six Nigerian states (see Figure 1) and four other countries (Cameroon, Central African Republic, Chad and Niger). KYB is of strategic national and international importance.

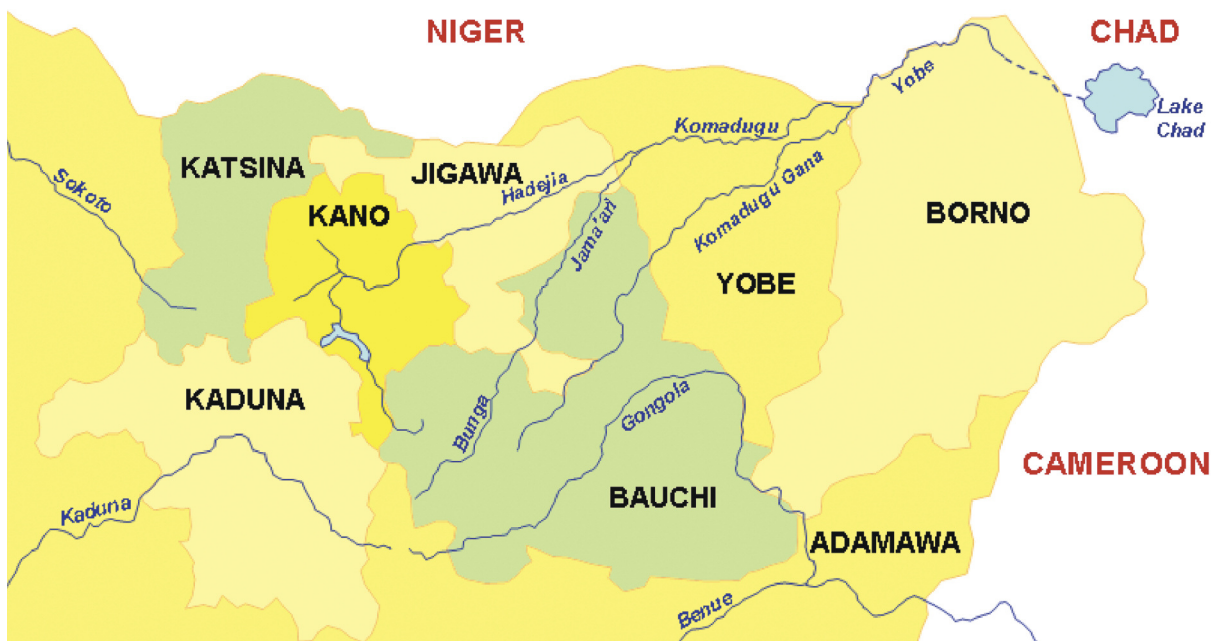


Figure 1. Map of Komadugu Yobe Basin (Source: 'Yobe River' www.wikipedia.com)

KYB, Lake Chad and the Sahel region

Lake Chad is a large fresh water lake and is important economically, providing a vital source of water to wildlife, livestock and the people living on the edge of the Sahara Desert. At the heart of the Sahel region, the KYB has a semi-arid climate, rainfall variability is high and severe drought is a frequent hazard, leaving communities less able to cope with change. Poverty characterizes the basin, where the population has doubled in three decades to more than 23 million and keeps growing at 2.5% a year. At the same time, water flow in the Komadugu

Yobe has fallen by 35%, due to the combined effects of the two large dams built in the 1970s, abstraction of water for large-scale irrigation and regional climate change. The Komadugu Gana tributary, for instance, no longer reaches the Yobe River, which in turn only contributes about 1-2% of the total water inflow to Lake Chad. The contribution used to be about 10% two decades ago, and due to such external changes, Lake Chad has shrunk dramatically over the last 40 years.

MAJOR WATER ISSUES IN THE BASIN

Ecosystem degradation and livelihood vulnerability

Inappropriate land and water management practices in the basin have changed the seasonal flow to a perennial flow regime. This has resulted in the invasion of reeds and weeds such as Typha in some of the river reaches, which block streams and flooding of channels causing changes in the wetland ecosystems that communities have historically relied upon to deliver regular water services. With the exception of the year 2001, natural flooding of the Yobe River floodplains has been very limited in recent years and irregular and low flows in the Yobe River have affected the small and large scale irrigation schemes along the rivers with many of them now abandoned. Fishing, farming and herding livelihoods have been adversely affected and the scarcity of water has led to conflict over the available resources.

Institutional inertia

Communities already under social and economic crisis found themselves confronted with ever-increasing water stress. In addition to widespread environmental degradation, slow responses from water authorities to the problems further compounded the problems. The basin suffered from fragmented regulation and conflicting responsibilities among institutions, a lack of coordination for hydro-agricultural developments, inequitable access to water resources, non-optimal utilization of multi-purpose dams, and growing tensions and risk of conflicts among water users. In other words, the river basin seemed locked in a state of institutional paralysis from which a coordinated response to the issues could not be mounted. Competition for dwindling water resources was leading to major conflicts among water users and sectors.

WORKING TOWARDS SOLUTIONS

The situation in the KYB was calling for a fair, judicious and sustainable allocation of water resources among competing sectors, and amongst the constituent regions and states. As a response to this, WANI and partners aimed to support the coordination of all stakeholders in participatory dialogue to tackle the degradation of natural resources in the basin using the Integrated Water Resource Management approach (IWRM). This type of management “promotes coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems”.¹

WANI and partners supported the building of a knowledge base so that water management decisions could be made on the basis of up-to-date information. The next step was to establish a legal and policy enabling environment through which basin-wide coordination mechanisms could be implemented. This led to development and adoption of a basin-wide Water Charter. In conjunction with these measures, field interventions to pilot-test improved water management that would have positive impacts on local livelihoods were implemented. The aim was to demonstrate efficient and sustainable water utilization techniques and approaches. These would support the development of a catchment management plan that would form the structure and mechanism to implement an integrated and basin-wide water resources management initiative.

¹ GWP (2009) Lessons from Integrated Water Resources Management in Practice, Global Water Partnership, Policy briefing 9

Box 1. Building trust with local communities in the Basin

To help local communities activities focused on improving the flow of the river by removing weeds and silt blockages which had reduced the flow downstream and caused flooding upstream during times of heavy rain. For example:

- 5 km of channel clearance and 500 m of bank stabilization of the Miga/Kafin Hausa River
- 12 km of channel clearance along the main river course of the Old Hadejia River 1.5 km of channel clearance and 2.3 km of embankment along main river course at Rantan

Crucially, this was carried out by the local communities who actively participated in the clearing of the weeds and de-silting process. These immediate, tangible results built up trust in the communities, as they could see the dramatic, local improvements to the river, with increased flow downstream and a reduction in flooding upstream. The photos below illustrate the change in flow as a result of these activities. It is important to note that while the majority of the costs were covered by donor funding, the community contributed their labour and some investment. These localized actions helped to increase yields as flooding was reduced and river banks were once again cultivable as erosion was prevented. The communities literally gained ground and were able to see the benefits of longer term, less tangible developments such as the catchment planning and governance mechanisms including the water charter.



Outlets of Tiga Dam at Rantan before (left) and after (right) channel clearance

The Water Charter: a framework for managing water resources across the basin

Regular consultation and transboundary exchange of information on activities is crucial for successful sustainable ecosystem management at basin-level in the KYB, which flows through six Nigerian states. Transboundary cooperation is therefore key in achieving this. IWRM requires the ability to establish effective linkages between departments and economic sectors to allow for the development of integrated planning and management. For these reasons it is crucial that KYB is managed through the guidance of a Water Charter which can help to improve regulatory responsibilities of government agencies, and advise on the coordination and development water resources interventions. The

purpose of the Water Charter is to provide for the development or adoption and implementation of policies and strategies. These will promote effective planning and management for the equitable, efficient and sustainable use of the water, land and other environmental resources of the KYB and to avoid or eliminate so far as reasonably practicable adverse cross-border impacts. It outlines specific principles that should be followed and clarifies the roles and responsibilities which different stakeholders should adhere to.

The development of the Water Charter was a participatory process involving stakeholders from each of the riparian States. The Water Charter was finalized and adopted at the basin-wide stakeholder

platform in 2007 where representatives attended from all the six riparian States in Nigeria, the Federal Government Ministries, as well as NGOs and many others. To date, only Borno State has officially signed the Water Charter as ratification by the states has proved to be a slow and involved process due to political changes.

Catchment Management Plan: an integrated approach to water management

The socio-economic and environmental studies and a comprehensive Water Audit collated existing data and provided essential information which did not previously exist and which needed to be collected. This information informed the draft Catchment

achieving equity of allocation, efficiency of use and overall sustainable development in the basin. It seeks to provide a means of harnessing relevant water resources management mechanisms and fostering their incorporation into Millennium Development Goals and National Economic Empowerment and Development Strategy policies, programmes and plans, while interacting with other natural resources management models.

The CMP has two components and a total of nine strategies, each with several activities yielding different outputs. The strategic actions were identified by such stakeholders as the Federal, State and Local governments, private institutions, Non-Governmental

‘The objective of the Catchment Management Plan is to resolve identified water problems and challenges’

Management Plan for the integrated land and water resources management of the KYB which was reviewed by all stakeholders, with an emphasis on key water users such as women who are frequently under-represented in these discussions. Among the stakeholders in the CMP’s development was village leader and fisherman Alhaji M. Ibrahim Chedi who explained that he would travel across the country because “[he would] undertake any measures to ensure the river’s health, since our village livelihood directly depends on its flow.” After various comments had been incorporated, the final draft document of the Catchment Management Plan was adopted and then approved by the State Governors at a Summit of Governors and Leaders of the basin in June 2006. The State Governors endorsed the plan at the Damaturu Summit of 2006. “In the whole country there is no integrated water management like this KYB basin,” explained Dr. Muslim Idris, chairman of the KYB’s Joint State WRM Coalition.

The objective of the Catchment Management Plan is to resolve identified water problems and challenges, in the light of climate change, as well as developing integrated water management planning in the region. This is the first step to

Organisations (NGOs), Community-Based Organisations (CBOs) and resource users. The goal of these actions is to strengthen strategically important institutions and prepare them to effectively manage water resources in the basin in an integrated and sustainable manner. The plan foresees a number of reforms. It differs from most strategic plans in that it contains a set of strategic actions designed as catalysts to address priority concerns targeted at correcting or mitigating the critical problems as mutually agreed by the stakeholders.

Multi-stakeholder participatory approach

Despite the fact that the multi-stakeholder participatory approach was slow, expensive and time-consuming, it helped mobilise partnership and confidence with Ministries and Government Agencies, decentralized Local Government Authorities (LGAs), NGOs and CBOs, and also improved communication between stakeholders at all levels. There was limited communication between the research institutions and public policy-managers and therefore work was needed to improve the exchange of information and capacity-building. Public participation has generated tangible benefits, fostering cooperation in the process of developing and implementing strategic actions.

Water Audit and database: providing information for decision-making

The Water Audit and the database were very important tools for making informed decisions on sustainable use of resources in the basin and were highly welcomed by the federal and state ministries of water resources and the river basin authorities. With a centralized database, it is now becoming easier to access data and key information about the basin in terms of land and water resources management, which also helps dialogue among stakeholders. "You can't share what you don't know," argued Dr. Muslim Idris.

Institutional development and leadership

Evidence of the achievements in the KYB can be found in the policy direction of the country. The interventions by WANI and partners directly influenced the creation of the Nigeria Integrated Water Resources Management Commission (NIWRMC) and have also strongly supported the 7-point agenda of the President of the Federation (2007-2011). The NIWRMC is a Federal Organization under the Federal Ministry of Water Resources with a national mandate for promoting IWRM. The 2009-2011 strategic plan for the NIWRMC clearly states that the Commission will roll-out water audit studies and develop management plans for the other seven basins in the country using the KYB model and then crown these plans with Water Charters for these basins similar to what is happening in the KYB. The development of the national commission is crucial as this is the vehicle

that will drive national implementation of the catchment planning and with the state coalition to take forward the Water Charters.

The State Integrated Water Resources Management Committees (SIWRMCs), with 'Committees' changed to 'Coalitions', are initiatives that have been established throughout the six riparian States of the KYB within Nigeria and are recognized by the various State Governments and their organs. They served as the main anchor during the development of the Water Charter as the members of these committees are the key actors who will drive the water governance process forward at the state level. The membership comprises the stakeholders concern with land and water management matters in the respective states.

The Trust Fund: to pay for implementation

Through the Federal Ministry of Water Resources, the Hadejia-Jama'are-Komadugu-Yobe Basin Trust Fund, with a financing target of US \$ 125million, was created as an outcome of the Damaturu Summit in 2006. The Trust Fund is an innovative platform for a joint intervention by the riparian states, with the support of the Federal Government of Nigeria for augmenting line agencies in addressing the KYB land and water resources issues. To help establish the Fund, the State Governors contributed an equivalent of USD 6.5 million as a take-off amount towards the establishment of the Trust Fund. The Federal Government of Nigeria then matched the funds equally to bring the total amount to USD 13 million.



Former President of Nigeria, Olusegun Obasanjo, at the Damaturu Summit

The Trust Fund is implementing aspects of the CMP by way of funding SIWRMCs, communities, and CBOs and other relevant platforms to support approved activities that comply with the Plan.

In less than two years, all six states got to the point where they trusted each other enough to pitch in more than \$1 million each, "... with no precedent for a Trust Fund in the entire country" said Engr. I.K. Musa, former Director of Irrigation and Drainage Department at the Federal Ministry of Water Resources. It is intended to provide a sustainable funding mechanism for addressing the most crucial inter-state (transboundary) water management issues of the basin. The activities include practical interventions, capacity-building, data collection, analysis and dissemination, enlightenment, awareness raising and consultative sessions for resolving impasses.



Carrying out the water audit

Box 2. Political will and restoring trust

Suspicion and mistrust about rival's intentions was prevalent among the basin peoples and parties. It required political will to break barriers and transparent dealings to restore trust and mutual confidence among the basin's stakeholders. I.K. Musa, former Federal Director of Irrigation and Drainage, showed this political will by help stopping the construction of another dam scheduled to be built along the river. It was a huge risk. But to lock in trust among hostile competing interests, Musa "felt that we must be the first to make sacrifices; not fisheries or cities downstream. So our sacrifice took away a sense of bias, and now each other sector is making a contribution." By trading 'hard' for 'soft infrastructure' Musa lowered tensions, generated more water, and set in place a Catchment Management Plan. That plan is being replicated nationwide, and scaled up to the international Lake Chad Basin Commission.

WHAT HAS CHANGED?

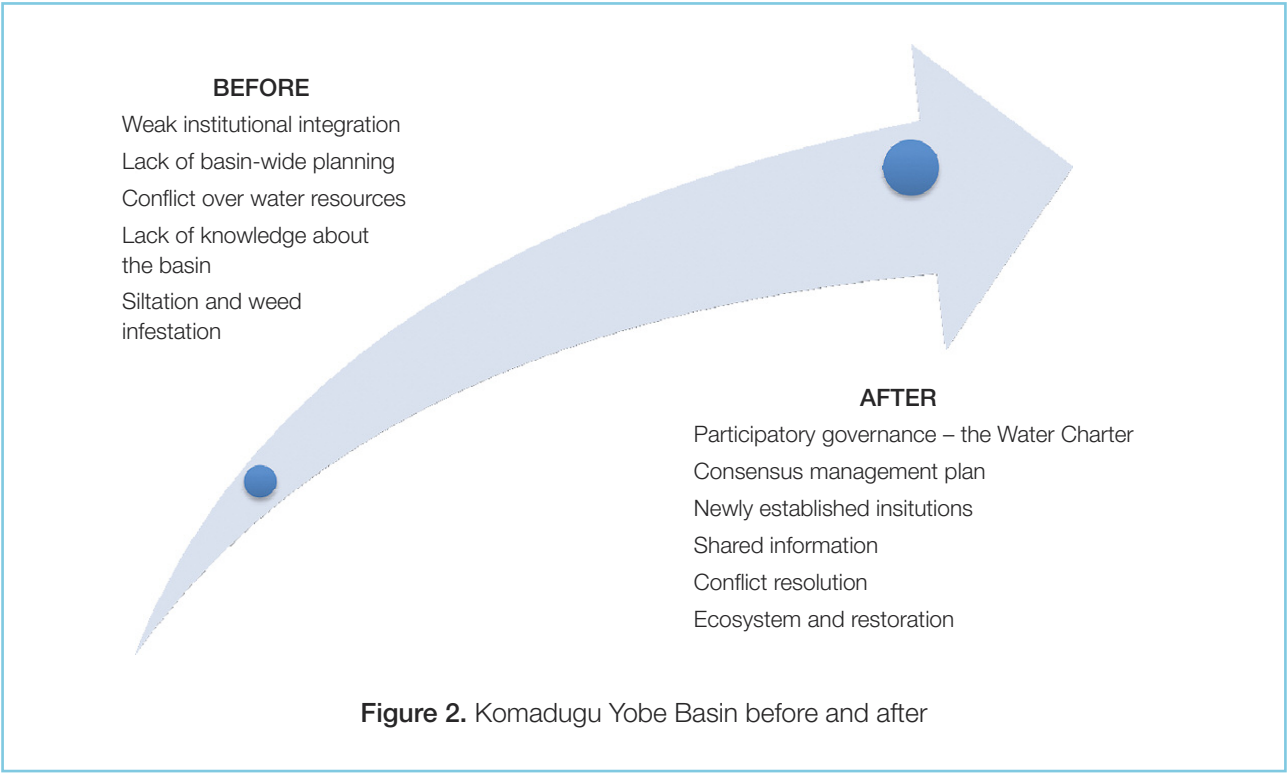
With further climate change looming, the adaptive capacity of ecosystems and communities of the Komadugu Yobe had become brittle, just when resilience is most needed.

KYB: Knowledge, planning, dialogue, institutions, political will and restoring trust

Riparian states had been unable to coordinate development of water resources in the basin. With the number of cases of conflicts over land and water resources reaching court running into the hundreds each year, the dysfunctional state of river basin and national level institutions had become a

barrier to pursuing the Millennium Development Goals in the basin.

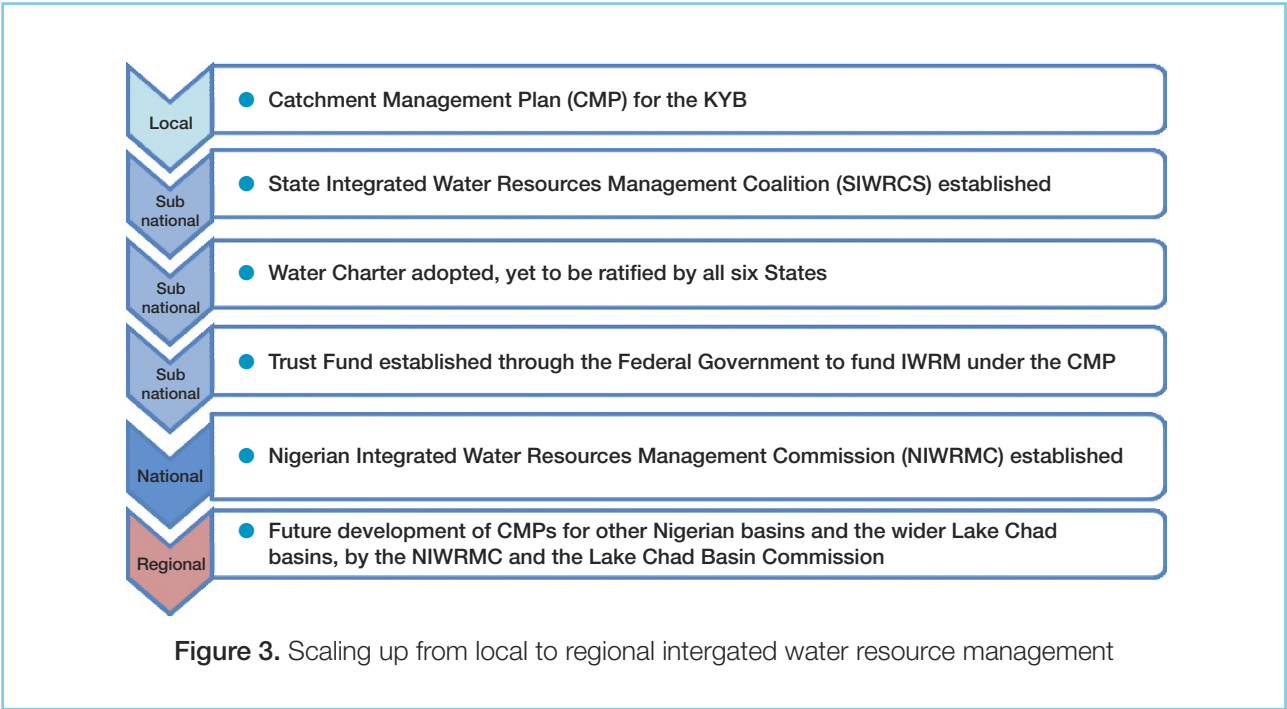
The KYB water management project turned this situation around by building trust between stakeholder and providing a platform for dialogue and decision-making. Through the CMP and the Water Charter, a sustainable IWRM approach is now being implemented in the Basin, practicing a participatory approach which responds to the dynamic and changing nature of the area. The substantial impact of the project on water resources governance led to a 90% reduction in water conflicts reaching court by 2006.



KYB phase 2: Scaling-up

The KYB approach is now being scaled up into the Lake Chad Basin through a new project, "Replicating KYB Experiences to Support National and Transboundary Initiatives for Sustainable River Basin Management" which is being implemented in partnership with the NIWRMC. The aim is to improve river basin ecosystem services to sustain riparian communities and the natural environment of the

basin. This will be achieved through implementing the KYB's CMP, supporting dialogue and stakeholder participation, capacity-building and best practice river basin governance. There will also be a focus on improving transboundary cooperation in the Lake Chad Basin through the exchange of ideas and learning on best practice water governance, with scaling-out to other regional transboundary basins.



Donor support

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**INTERNATIONAL UNION
FOR CONSERVATION OF NATURE**

WORLD HEADQUARTERS
Rue Mauverney 28
1196 Gland, Switzerland
water@iucn.org
Tel +4122 999 0000
Fax +41 22 999 0002
www.iucn.org/water
www.waterandnature.org

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