

# REPUBLIC OF UGANDA

Ministry of Water and Environment

*Directorate of Water Resources Management*

**Kyoga Water Management Zone**



AUGUST 2017

## LOKOK CATCHMENT MANAGEMENT PLAN

POPULAR VERSION





# POPULAR VERSION CMP LOKOK

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# INTRODUCTION

The present document provides the popular version of the Catchment Management Plan (CMP) for Lokok Catchment in north-eastern Uganda. Lokok Catchment covers an area of 5,521 km<sup>2</sup> and has an approximate population of 390,000 (2016 approximation based on Census 2002 and 2014).

## 1.1 Catchment-based water resources management in Uganda

As part of its water resources management reform the Ministry of Water and Environment (MWE), through its Directorate of Water Resources Management (DWRM), is implementing Catchment Based Water Resources Management (CBWRM). This process deconcentrates water resources management (WRM) along catchment boundaries. Catchments are hydrological units independent of administrative boundaries where surface water converges to a single exit point at a lower elevation level. CBWRM links the management of land, ecosystems, and socio-economic systems, and allows to plan towards using water resources effectively and efficiently to achieve long-term sustainable development by balancing growing water demands with limited water resources.

The country has been divided into four Water Management Zones (WMZs): Upper Nile, Albert, Victoria and Kyoga. Lokok Catchment is in Kyoga Water Management Zone (KWMZ), and covers parts of Karamoja and Teso Regions in north-eastern Uganda.

There's a streamer which is going to be positioned here.

## 1.2 Uganda institutional environment

Although there exist gaps in relation to the management of water and related resources at catchment level, there are sufficient legal provisions in place to manage water resources sustainably. Together the Constitution, acts and statutes establish that, amongst others, water sources must be protected and environmental impact assessments are required for the construction of infrastructure. There is the need to consider natural conservation areas when developing policies and considering commercial exploitation. Water abstraction and waste water discharge are regulated through permits. Additionally, several policies and strategies mention the need to improve safe water supply, extend and modernize agricultural production, improve equal participation in water management, link water, sanitation and hygiene, support self-help initia-

tives in communities and at household level, advocate for domestic rainwater harvesting, and promote community-based maintenance of rural water supply systems.

MWE is the lead agency for all aspects of water resources management and development, setting standards to manage and regulate all water resource developments, and monitoring and evaluating all the sector development programs. It operates through three directorates. The Directorate of Water Resources Management (DWRM) is responsible for the development, maintenance and enforcement of national water laws, policies and regulations, and manages, regulates and monitors national water resources through the issuance of water use permits that is abstraction and wastewater discharge permits. DWRM is the lead in developing the agenda for CBWRM.

Figure 1 Lokok Catchment in Kyoga Water Management Zone in north-eastern Uganda.





Other relevant institutions in the context of catchment management planning are the Water and Sanitation Development Facility East (WSDF-E), Karamoja Umbrella of Water and Sanitation (KUWS), Umbrella of Water and Sanitation East (UWS-E), National Environment Management Authority (NEMA), National Forest Authority (NFA), Ugandan Wildlife Authority (UWA), The National Water and Sewerage Corporation (NWSC), the districts technical offices, local governments, Non-Governmental Organizations (NGOs), private sector, Uganda Water and Sanitation NGO Network (UWASNET), communities (with their representative committees), and other ministries, such as the Ministry of Agriculture Animal Industry and Fisheries (MAAIF), Ministry of Tourism, Trade and Industry (MTTI), Ministry of Energy and Mineral Development (MEMD), Ministry of Local Government (MLG) and the Ministry of Works and Transport (MWT).

### 1.3 Methodology

CBWRM in Uganda is based on the Integrated Water Resources Management (IWRM) approach, recognises that many water use and management issues are interrelated, and is founded on early, open and inclusive stakeholder involvement. The Uganda Catchment Management Planning Guidelines (MWE 2014) guide the planning process. Following these guidelines, the development of this plan started with the delineation of the catchment, the development of a catchment information system, and the building of a catchment knowledge base. Thereafter three assessments were undertaken:

- Water Resources Assessment, which is a study about the status of the water resources, the water

balance and water demand at present and in the future;

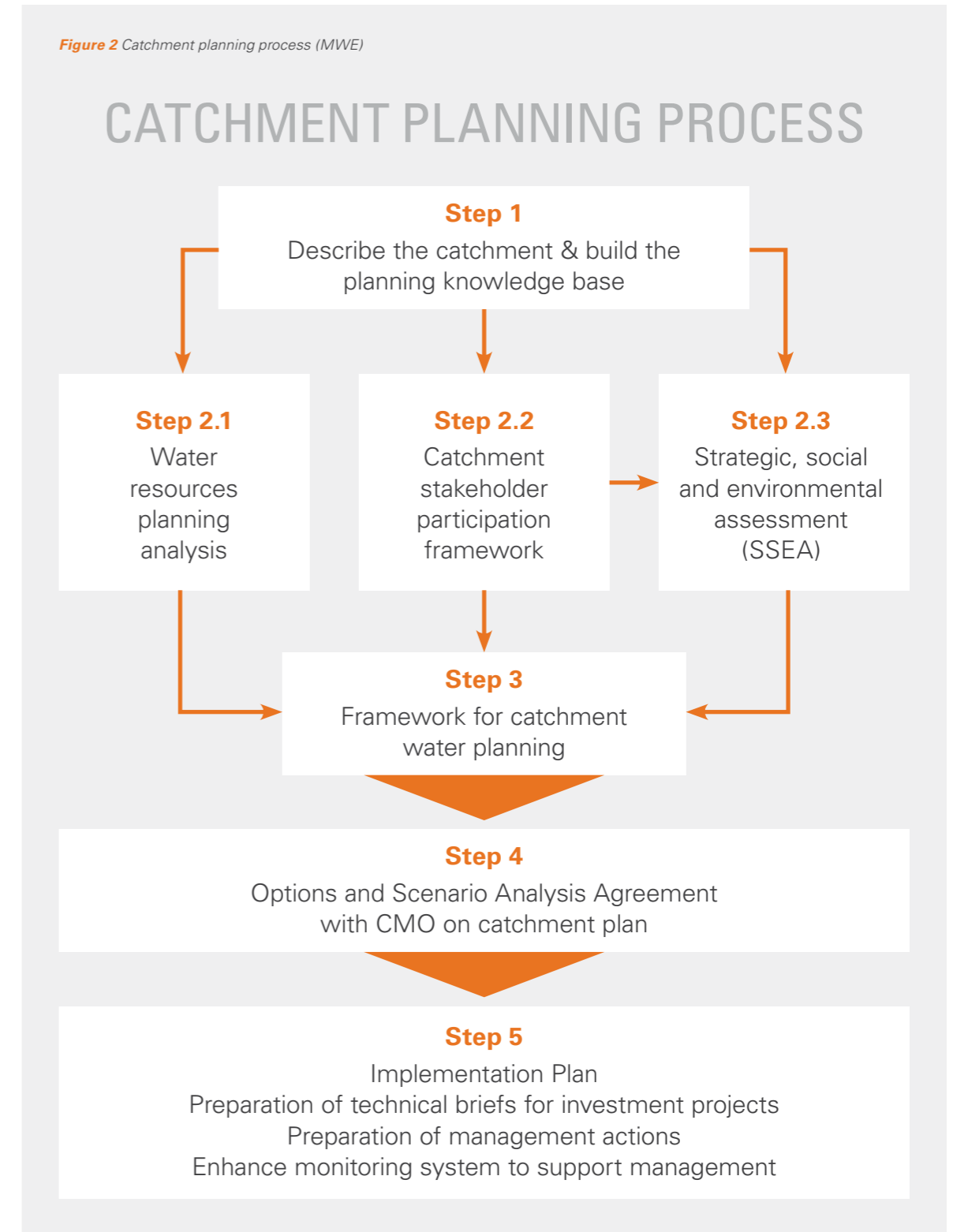
- Stakeholder Assessment, which identifies and characterizes stakeholders and their relations in order to design a stakeholder engagement strategy, both for the development and the implementation of the plan;
- Strategic Social and Environmental Assessment (SSEA), which analyses the fragility of economically and socially important natural assets, and identifies the main issues today and the potential issues in future.

Based on the results of the assessments the stakeholders developed the vision and strategic objectives for the catchment, which guided the development of options and scenarios. Multi-criteria analyses of these options and scenarios resulted in the consensus Catchment Management Plan (CMP). Subsequently, an Implementation Plan was developed, which is an integral part of this CMP and provides practical guidance regarding interventions, locations, prioritization, costing and stakeholder involvement.

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Figure 2 Catchment planning process (MWE)



Stakeholders were involved throughout the process to understand the different interests, to find common solutions for often competitive uses of resources and to facilitate buy-in into the final plan. Stakeholders meet on catchment management in the Catchment Management Organisation (CMO). The CMO comprises of the Catchment Stakeholder Forum (CSF), Catchment Management Committee (CMC), Catchment Technical Com-

mittee (CTC) and the Catchment Management Secretariat (CMS). During the development of this CMP stakeholders were informed about the process and its objectives, were consulted on their issues and needs and collaborated in four CSF meetings and two CMC meetings. The Kyoga Water Management Zone provides the CMS services at an interim basis. The CTC is not (yet) established for Lokok Catchment.





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# DESCRIPTION OF THE CATCHMENT

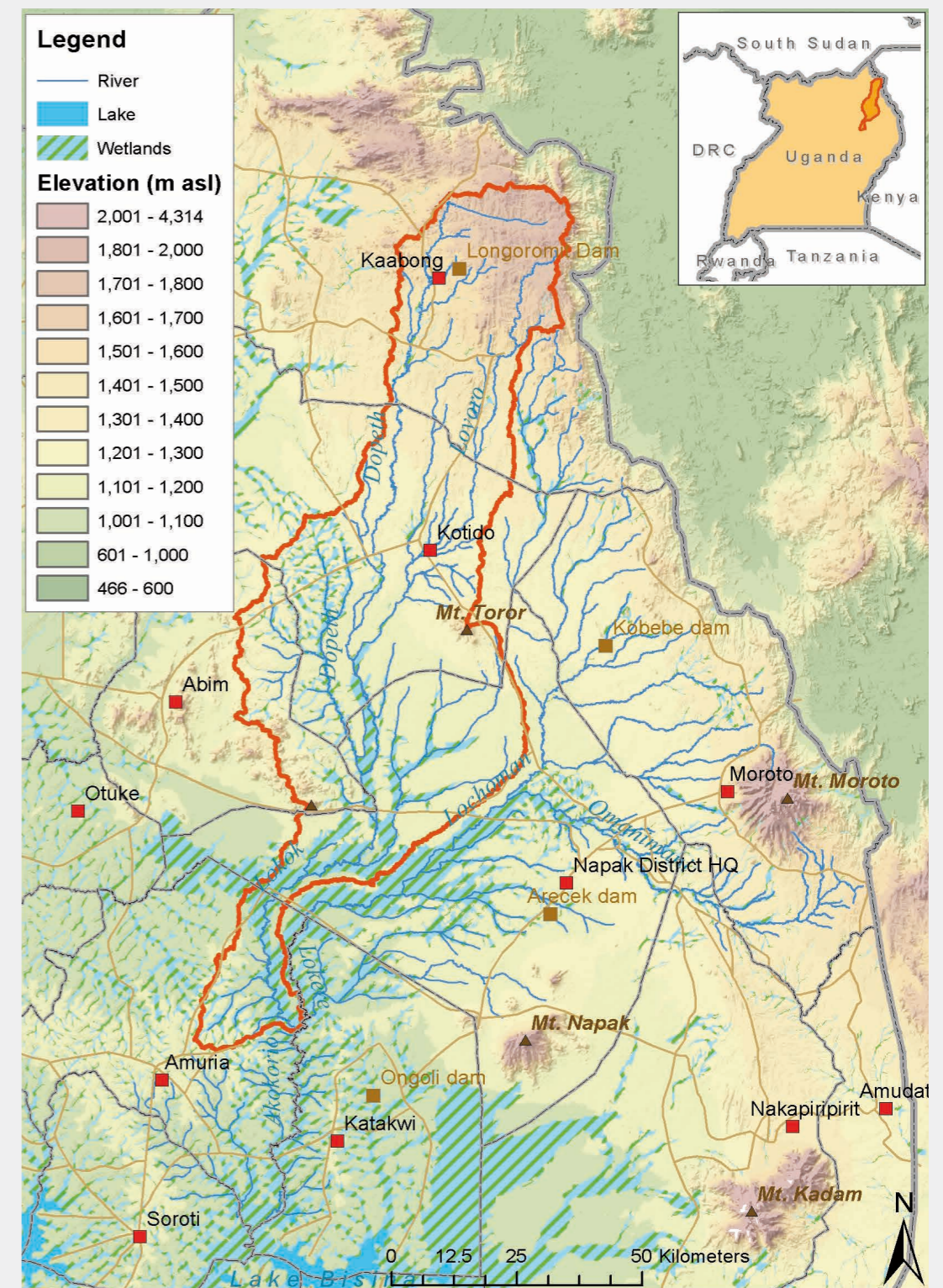
Lokok Catchment is located in the districts of Kaabong, Kotido, Abim, Napak and Amuria. River Lokok (Okok in Teso), its tributaries and the downstream Amuria Wetlands define Lokok Catchment. The river system is set on a large inland plateau, 400 m ASL, underlain by Precambrian crystalline basement rocks. The hills of Timu Forest in the northeast, Toror Hills southeast of Kotido Town, and the Nyakwai Hills in Abim District are the most noticeable topographic features. Soils are in general fertile, but sensitive to soil erosion. In the downstream areas, the occurrence of soils with a very low infiltration capacity causes waterlogging.

## 2.1 Climate and land cover

The total average annual rainfall in the Lokok Catchment varies between 550 mm/year in Upper Lokok and 1,250 mm/year in Lower Lokok. The precipitation pattern is classified as bimodal, but is highly variable in space and time, with high peak events and long dry periods. On average, the short, but intense rainy season runs from

April to July with typically a 2-week dry spell at the beginning of June. The long rainy season runs from September till December/January, but is less intense. In Upper Lokok the long rainy season is often inexistent. Actual evapotranspiration in Lokok Catchment varies between 300 mm/year around Kotido and Kaabong towns and about 1400 mm/year in Timu Forest, and is strongly related to land cover, presence of open water,

Figure 3 Topographic map of Lokok Catchment



rainfall, temperature and wind. Climate change projections indicate that temperatures, rainfall intensity and frequency of extreme events will increase.

Approximately 1/6 of the land in Lokok Catchment is currently covered by croplands. The rest of the catch-

ment is covered by forest, woodlands, grasslands and shrublands. Extensive wetland systems are present in Lower Lokok. Most lands are communally owned, except in the town centres of Kotido and Kaabong, and in Lower Lokok where individuals possess title deeds. Approximately 1/4 of Lokok Catchment has a protected





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**LOKOK CATCHMENT MANAGEMENT SECRETARIAT  
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