

THE NIGER RIVER BASIN

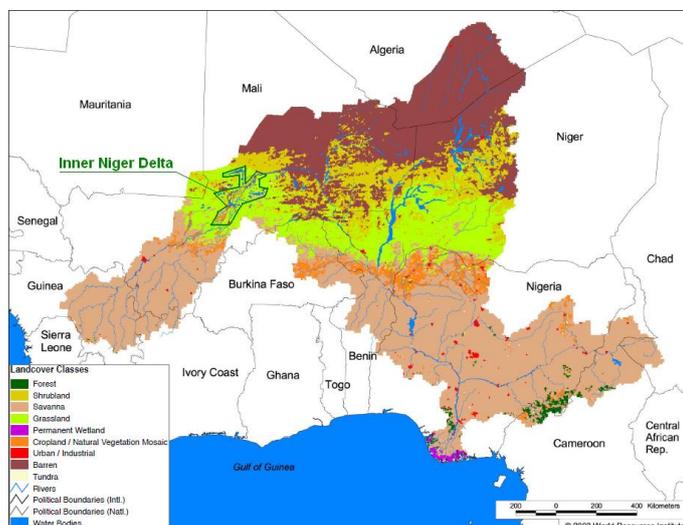
The Niger River Basin has an area of 2,117,700 km² and is shared by 10 West-African countries. The Niger River springs from the Loma Mountains in Guinea. After collecting its headwater tributaries, it flows to North-East direction, into the flat and dry Sahel. Due to intensive evaporation and to the sudden decrease in gradient, most of the River's sediment gets deposited in this region. As a result, the river breaks up into a system of braided streams, which is called the Inner Niger Delta. Before getting fully evaporated the Niger turns to South-East direction where it reaches again the equatorial rainy zones and its discharge starts to increase again. The river flows into the Atlantic Ocean in Nigeria.

SOCIO-ECONOMIC DESCRIPTION

The basin has a population of 70.2 million inhabitants. The majority of the population is settled in rural areas and depends largely on the ecosystem services of the river and its wetlands. The water in the basin is partially regulated through dams in order to provide hydropower, and permit irrigation. The water resources of the basin are under pressure due to increased water abstraction and due to impact of climate change.

INSTITUTIONS

Basin-wide coordination of water resources management is carried out by the Niger Basin Authority (NBA). It has worked to create an "Integrated Development Plan of the Basin". It has been ceded no sovereign power over resources or management, and therefore all regulation must be imposed by individual sovereign governments. While not the original focus of the NBA, environmental protection from the threats of desertification, deforestation and pollution of the rivers by agriculture and industry have become a major theme of its work.



WETWIN PROJECT

The Inner Niger Delta (IND) wetland, situated in the Niger River basin, is one of seven cases studied in the WETwin project. IND is a large inland flood plain of 30000 km². It is one of the four major hydrologically distinct components of the Niger Basin. It has international importance for biodiversity and is also critically important for the livelihood of one million people that depend on the ecosystem services of the Delta. The most important services of the IND are food production (fish, rice, cattle), domestic water supply and disease control (vector- and water-borne). Currently IND and its services are threatened by pollution and desiccation, which are the impacts of basin-scale drivers such as: agricultural intensification, population growth, climate change and upstream water uses.

The main research questions of WETwin with regard to the IND are:

How river discharges (high and weak) and upstream dam management impact on the ecological health and services of the IND?

How climate change, population growth and other changes in boundary conditions impact water quality and ecosystem services?

What the best water and pollution management strategies that will lead to better water quality, less water and vector borne diseases while not harming the other services of the IND?

What prevention and adaptation strategies can be applied for fighting water and vector borne diseases and for improving water quality?

For answering these questions hydrological, water quality and ecological models have been built up both on basin and on wetland scales. Also the institutional environment has been analysed with the aim to explore the management capacity that is available for coping the threads.

(ADDITIONAL INFO ON WWW.WETWIN.NET)

ABOUT TWIN2GO

Twin2Go reviews, consolidates, and synthesises research on adaptive and integrated water resources management in basins around the world. The aim is to draw insights relevant to policy and research on issues around adaptive water governance in the context of climate change, and to make them transferable to other basins. Twin2Go further promotes sharing of research results with practitioners and high level decision makers through effective dialogue.