MALI WATER RESOURCES

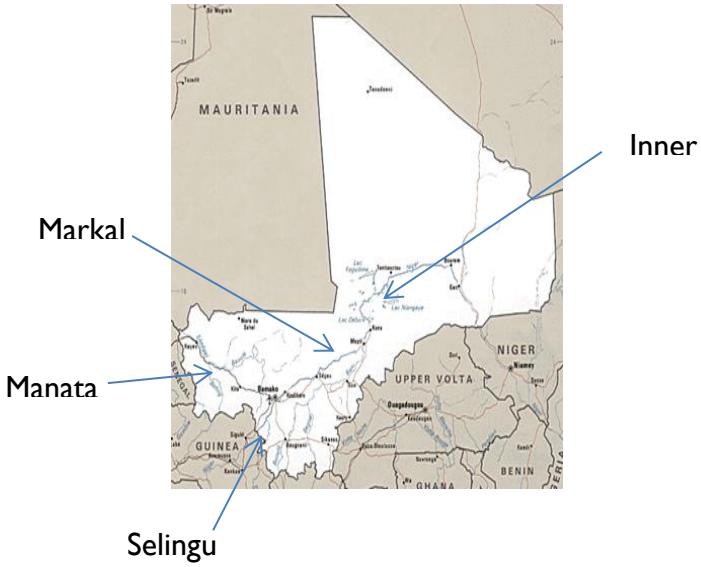
Key Issues in the Context of Climate Change

Even though the Sahara desert extends into parts of Mali, the country has comparatively abundant water resources concentrated along the Niger and Senegal Rivers, and in the inland delta at the center of the country. Almost all of Mali's major urban centers are located along these rivers, and these urban areas will continue to have adequate access to water resources as long as there is sufficient capital to provide water treatment and distribution infrastructure.

Conversely, all areas — especially rural ones — located away from rivers face significant water stress. That stress increases northward, where rainfall is progressively lower. These northern areas are the most susceptible to predicted climate change due to lower rainfall, higher temperatures, and increased rainfall variability, which affect agricultural production and the reliability of both surface and groundwater resources.

At the national level, Mali's primary responses to the threat of climate change on water resources have been to assure food security through large-scale irrigation system development near the inland delta and improve rural water supplies by exploiting groundwater. While successful to date, these approaches do not have a significant impact on the vulnerability of rural populations living far from the main rivers. In these rural areas, where access to water resources is limited, there is a need to take an Integrated Water Resources Management (IWRM) approach. Despite decentralization to the Commune level, support services at the Commune level mirror central government structures; thus, rather than developing an integrated approach, interventions at the village level almost always focus on a single use, e.g., water supply, agriculture, or livestock.

MAIN WATER CONTROL STRUCTURES IN MALI

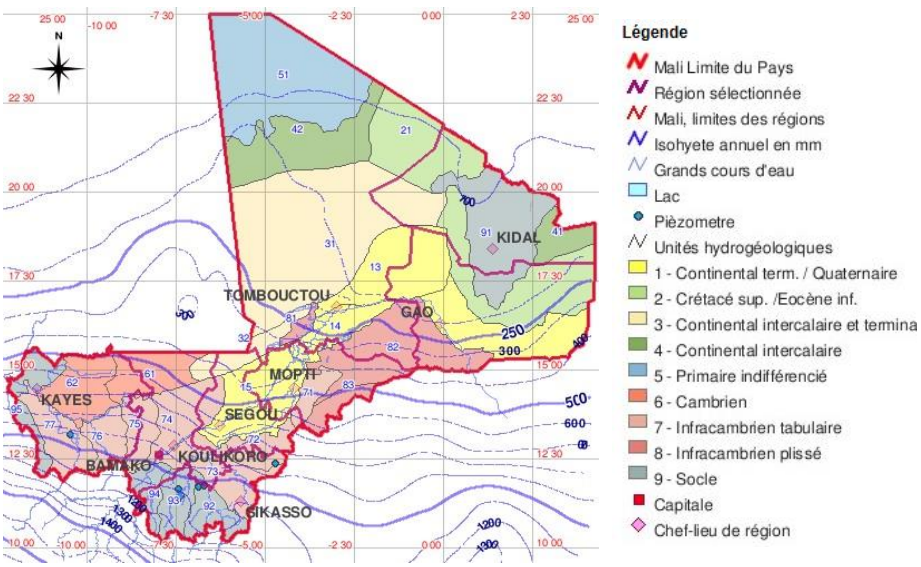


Source: Alendrai Digital Library, University of California, Santa Barbara

Effective IWRM, as exemplified by the Multiple-Use Services approach, functions at three levels: household strategies for improved resilience to climate change through behavior change in agriculture and water-related hygiene; village strategies for participatory development of IWRM strategies; and

support to service providers at the Commune level. These strategies take advantage of the limited water available to ensure that it is used as effectively as possible. Unfortunately, Commune-level cadres have little or no access to effective tools and information necessary to develop more resilient IWRM plans. They need guidelines on how to develop IWRM plans, information about predicted changes for short-term adjustments, and an effective planning approach to enable them to make effective use of limited financial and human resources. Donors and the Malian Government can support greater resilience to impacts of climate change by developing and implementing an IWRM program that operates at these three levels and strengthens local capacity to manage land and water resources more effectively under conditions of increased variability of rainfall and temperature.

HYDROGEOLOGIC MAP OF MALI



Source: SIGIRE Project, DNH 2011

ADDITIONAL INFORMATION

This brief highlights key conclusions from Murray-Rust, H. (2013). *Water Resources in Mali.* USAID. Interested readers are invited to review the full paper at http://community.eldis.org/ARCC/.