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Water resources management in the Nile basin

The Nile Basin is a resource-rich but climatically harsh and economically poor region experiencing rapid population growth, great disparities in water resources at the national and local levels and frequent droughts. Despite the Nile Basin's large size that is drained by the world's longest river, runoff is less than half that of the Zambezi and Niger rivers that drain smaller catchments. Water conservation in the upper riparian countries of the Nile Basin is becoming increasingly urgent to meet their own rapidly rising demands and those of Sudan and Egypt. The populations of these countries are not, unlike those of Egypt and much of Sudan, settled along fertile, irrigated flood plains of the Nile and its tributaries but are dispersed in mountainous areas with limited access to hydraulic infrastructure and depend mostly on dry land farming. A colonial water law has prohibited upper riparians from implementing water resources development projects until recently, when several countries, particularly Ethiopia, started to implement large hydroelectric projects. The Nile Basin Initiative, launched in 1999 to ensure sustainable use of the Nile's water at the regional level, has not been implemented because Egypt and Sudan continue to insist that their water current use rights be preserved. In the face of rapid increases in population (projected to reach 336 million by 2030) and hydro-electric energy and overall water needs in the Nile Basin, water scarcity is likely to reach crisis proportions. This paper reviews recent large water resources developments in Ethiopia, where some of Africa's largest dams are currently being build.

Biography

Worku L. Mulat is an Associate Professor of Environmental Science and Applied Ecology with extensive teaching and research experience in Africa, Europe and the United States. He has received his PhD in Applied Ecology from Cork University, Ireland, 2001, MSc in Environmental Science, Gent University, Belgium, 1993 and BSc in Biology, Asmara University, Eritrea, 1987. He taught Applied Ecology and Environmental Science courses for more than 15 years at Jimma University and won US $ 120 million grant to investigate the socioeconomic and environmental impact of Gilgel Gibe Hydropower project in Ethiopia. Currently, he is working as a Research Associate at Tree Foundation, Research Collaborator with University of Connecticut, and Science Editor, ACCDON LLC. Currently he is serving as Editorial Member of Journal of Environmental and Analytical Toxicology. He published several water and Environmental Science related articles on Malaria Journal, Ecological Indicators, Environmental Monitoring and Assessment as well as Bioresource Technology. Dr Worku Mulat co-authored a book with Dr Helmut Kloos on Water resource management in Ethiopia with particular emphasis to the River Nile. He is a member of Ethiopian Public Health Association and Sierra Club and honored as distinguished guest on the opening of Nature Research Center, North Carolina and a panelist on topics related to Environmental Science in several science conferences.

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