

# **CLIMATE CHANGE AND COOPERATION IN TRANSBOUNDARY WATER SHARING: CASE STUDY -VOLTA BASIN**

Anik Bhaduri; Utpal Manna; Edward Barbier; Jens Liebe

## **ABSTRACT**

Only 4% of cropland in Sub-Saharan Africa is irrigated. The remainder is subject to growing climate variability and climate change. It is therefore not surprising that irrigation development has been proposed as a key climate change adaptation strategy in the region. However, most river basins in the region are transboundary, increasing the likelihood of water resource conflicts from climate change. In this paper, we demonstrate how countries can cooperate in transboundary water sharing in a sustainable way, given the impacts of climate change. We illustrate the case of water sharing of the Volta River between the upstream and downstream country, Burkina Faso and Ghana respectively, where the latter country faces a tradeoff of water use between agriculture in the north and production of hydro energy in the south. Our results indicate that during cooperation, Ghana will have an opportunity to expand irrigated agriculture.

**PALAVRA-CHAVE:** Transboundary, climate change