

UTILIZATION AND MANAGEMENT OF WETLAND RESOURCES IN WEST BENGAL, INDIA

ABSTRACT

Wetlands are one of the most important and globally threatened ecosystems. Wetlands provide a multitude of functions and services for human and natural communities. Economically impoverished peoples in many regions directly depend on wetlands for their sustenance. In addition, wetland ecosystems are integral to the ecological balance through the range of their ecological services such as groundwater recharge, flood and drought prevention, soil enrichment, storm protection, water filtration, refuge for endemic and migratory biodiversity, carbon sequestration and microclimatic regulation. In non-industrialized regions, wetlands are generally characterised by multiple users and as common property resources (CPR); this makes their sustainable management a complex task involving several stakeholders. This study has three primary objectives: it evaluates the economic and livelihood dependence of rural households on wetlands and identifies the factors that determine the use-distribution of wetland products; it assesses the range of ecosystem services provided by wetlands and the factors that shape the perceptions of local people regarding these ecosystem services; and it examines the effectiveness of government and village level institutions for the sustainable use and management of wetlands. The study uses primary data collected from 233 households in three wetland areas selected from three different geological regions: the Gangetic plain, the red lateritic zone and the coastal zone, in state of West Bengal in eastern part of India. The primary data is coupled with secondary data, and is analysed using descriptive statistics and econometric models. In particular, econometric models such as Tobit Model, Logistic Model and Ordered Logit Model are used to identify and analyze factors to explain the various wetland uses. The findings indicate that the nature and patterns of household dependency on wetlands vary widely across the three regions. In the Gangetic plain and red lateritic zone the share of wetlands uses is almost equally divided among agricultural irrigation, fisheries and collection of wood and nuts. In the coastal zone the household dependence on wetlands is mainly for fisheries. Poor households are more dependent on wetlands for their daily sustenance than their rich counterparts. It is also observed that there is a strong need for adequate institutional arrangements to resolve conflicts among different users of wetlands and to formulate suitable rules for the sustainable use and management of these wetlands; ownership conflicts over wetlands have also posed a serious threat to their sustainability. The study suggests that the state and national governments should implement suitable policies to address the issues of multi-user conflicts in wetlands. In addition, non-government organisation (NGOs) and civil society organisation (CBOs) can build community capacity to establish local level institutions to manage wetlands.

Keywords: sustainable wetlands management, resource dependence, livelihoods, conflict, institutions, West Bengal, India.