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ABSTRACT

The West African coastline has become a “hotspot” for oil production, and 17 oil exploration blocks have been designated off the Liberian coast. Liberia’s 579 km coastal zone supports almost 60% of the country’s human population and is endowed with natural resources of both biological and socioeconomic significance, leading to the potential for conflict between oil production, existing human activities and biodiversity. The aim of this study was to establish the level of dependency of coastal rural households of Liberia on the natural resources of the marine and coastal environment, and to assess the relationship between coastal people, biodiversity conservation and the oil industry of Liberia with an overall goal of contributing to biodiversity conservation efforts in Liberia.

Fieldwork was conducted from 19 September to 10 December 2011. Two aspects were assessed. A biological component focused on the biodiversity of the marine and coastal environments, and a socioeconomic component, which focused on natural resource utilization by, and the socio-cultural environment of, the coastal inhabitants of Liberia. A comprehensive review of published information was used to assess the vulnerability of the biotic and abiotic components of the coastal and marine environment to oil spills. Household surveys were conducted to assess the dependency of rural households on renewable coastal and marine resources and consequently, the potential threats to their livelihoods in the event of an oil spill. The surveys (N=316) were conducted in seven coastal counties adjacent to ten of the offshore oil exploration blocks that have been contracted for oil exploration activities. The coastline was divided into three regions with a total of 316 households surveyed: Western (N=76), Central (74) and Eastern (166). Average household size (N=10) was similar in all regions.

The coastal zone of Liberia comprises sensitive environments including estuaries, coastal lagoons, mangroves, sandy beaches and rocky shores, all of which are vulnerable to oil pollution to varying degrees. Mangroves, estuaries and coastal lagoons are important spawning, roosting and breeding sites for fish and other wildlife, whereas sandy beaches are used for recreation and serve as breeding grounds for five species of marine turtles. Coastal inhabitants rely heavily on the utilization of coastal and marine resources for their livelihoods and income. Fishing was most important, contributing 70% of income across all households, followed by farming (19%) and mangrove harvesting (8%). The remaining income was derived from hunting, petty trading, gathering of wild resources and sand mining. The number of households engaged in fishing and non-fishing activities differed between the three regions. There was more fishing in some regions than others. The Eastern Region constituted the greatest (87%) proportion of fishing households and derived the highest monthly proportional income from all livelihood activities. The Western Region constituted the highest (71%) proportion of farming households by region and derived the lowest monthly income among the regions. Fishing and several other sources of income might be lost in the event of a large oil spill, increasing poverty and food insecurity in the region. There is urgent need for the development of an oil spill contingency plan and a waste management plan for the oil industry. Local inhabitants also need to be trained so that they can respond to minor spills and related forms of pollution.