

CAUSES AND CONSEQUENCES OF MANGROVE DEFORESTATION IN THE VOLTA ESTUARY, GHANA: SOME RECOMMENDATIONS FOR ECOSYSTEM RESTORATION By John A. Rubin¹, C. Gordon² and J.K. Amatekpor²: ¹ Institute of Marine Studies, University of Plymouth, Plymouth, PL4 8AA, UNITED KINGDOM, ²Volta Basin Research Project, PO Box 209, University of Ghana, Legon, Accra, GHANA:-Halophytes growing in the study area consisted of two mangrove species, *Avicennia africana* and *Rhizophora racemosa*, together with grasses, ground-creeping angiosperms, the bulrush *Typha domingensis* and the fern *Acrostichum aureum*. Vegetation occurred in mono-specific patches, varying from a few meters to several hectares in size. Multivariate analysis of environmental data, collected in the field, revealed three distinct assemblages: one was dominated by *A. africana* and two other species, another contained *T. domingensis*, while the third contained *R. racemosa* and *A. aureum*. The consequences of the presence of the Volta Dams included gross overcrowding of *R. racemosa* seedlings and the total absence of recruitment in *A. africana*. However, exploitation of mangroves has increased simultaneously, as a result of the collapse of fishing and agriculture, both of which are additional consequences of construction of the dams. Suggestions are put forward which would increase biodiversity, improve mangrove timber yields and provide sustainable, alternative livelihoods for the local inhabitants. These include replanting programmes of both mangrove species in areas currently occupied by weed species which occur in the same assemblage as each of mangroves; that the SE Asian palm *Nypa fruticans* should be introduced artificially; and the development of low impact tourism in the project area.
