SOCIOECONOMIC AND ECOLOGICAL ASPECTS OF NATURAL

RESOURCE USE IN A MANGROVE WETLAND AREA-

EGYPT GARDENS, WESTMORELAND.

A Thesis

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Abstract
Socioeconomic and Ecological Aspects of Natural Resource Use in a Mangrove
Wetland Area- Egypt Gardens, Westmoreland.

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The ecological and socioeconomic settings of the community of Egypt Gardens
were investigated to determine factors influencing the patterns of natural resource
use by residents. A checklist of species found in the study area indicated the
presence of typical wetland plants and animals, especially in areas least accessible
to humans. A combination of transect techniques, Global Positioning System
(GPS), and visual analysis of recent aerial photographs was used in a Geographic
Information Systems (GIS) environment to produce a mangrove vegetation map
which revealed distinct zonation patterns in the mangrove forest adjacent to the
community. Changes in the area of land used for human settlement, mangrove
cover, and land use in general over the years were also apparent in the results of
visual analysis and digitization of a time series (1961, 1979, and 1999) of aerial
photographs in ArcView GIS. The study showed that Egypt Gardens had a
population of varying racial ethnicity that utilized mangrove wetland resources in
a variety of ways; primarily for construction and fencing, fishing and crab
hunting, and secondarily for coal and fuel wood among other uses. Of a sample
of 100 residents interviewed, over 80% belonged to households that utilized
mangrove resources to varying extents, with 26% primarily depending on these
resources for economic gain. Although the level of formal education was
generally low, awareness of wetland resource values was found to be fairly high
among the residents. However, the majority of the residents resist protection of
mangrove wetlands by enforcement measures, reflecting their dependence on
resource exploitation. Principal Components Analysis and Analysis of Variance
reveal that level of education, ethnicity, and years of residence in the community,
were the main factors influencing patterns of natural resource use, as well support
for the implementation of mangrove conservation measures especially by means
of enforcement.

Key words: mangrove wetland resource use, socio-economic factors, Geographic
Information Systems.