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Sustainable Aquaculture for a Secure Future

Title: Livelihood trends in Response to Climate Change in Forest Fringe Communities of the Offin Basin in Ghana

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Abstract: The livelihoods of forest fringe communities in Ghana depend, largely, on the renewable natural resources that they can find in the forests and any activities that impacts on the integrity of the forest disrupt the livelihood of the dependent communities. Forest fragmentation continues to take place in Ghana, mainly in response to a growing demand to feed an ever increasing population and for timber exploitation for export. One of the forest fringe communities in Ghana where the rural livelihoods of the people have been compromised due to deforestation and climate change is the Offin basin. The removal of forests impacts on local climate, water availability, and livelihoods due to influence of forests on precipitation and water balance. Fluxes in the quantity and frequency of rainfall contribute to decreasing food production and water availability. This study examines forest loss, precipitation and ambient temperature patterns in the forest fringe communities in the Offin river basin over the past four and a half decades and assesses current impacts and trends on rural livelihoods and coping strategies by the communities. The forests provide the communities with fuel-wood, fish and game, medicinal plants, food sources, and recreation. Between 2000 and 2005 deforestation rate in the basin was 2%. Mean annual precipitation decreased by 22.2% between 1960 and 2000 in response to a 1.3°C rise in ambient temperature over the same period. Considerable changes in the frequency of rainfall and its unpredictability impacted negatively on the livelihood of the fringe communities who are predominantly cocoa and subsistence crop farmers. The livelihood resources of the community are severely constrained leading to reduction in food security and economic losses. In response to deforestation and associated climatic changes, several

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coping strategies for sustenance of livelihoods have been adopted by the forest fringe communities.

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