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## Methodology for Vulnerability Assessment of Selected Economic Sectors of the Forest Ecosystem in West Africa.

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### Abstract

Forest ecosystems provide both primary and secondary goods and services to a number of economic sectors in developing economies where the dependence on natural resources is still soaring. Current and projected climate shocks and stresses are expected to render such economies highly vulnerable or have a devastating impact on the economic sectors and the livelihood of millions of people that depend on the forest sectors.

Generally in West Africa, the forest ecosystem provide high valued goods and services which are currently threatened. Several millions of people derived livelihood support from forest and its related sectors particularly during years of poor agricultural productions. A significant reduction of the availability of these goods and services coupled with high variability in their productivity is considered by local community as evidence of climate change in the region. However, the level of vulnerability of these sectors of the forest ecosystem due to climate change impact and specific effects this will have on the community who depends on them is yet to be determined scientifically. The need for vulnerability evaluation and potential risks on economic sectors, resulting from climate change impact on the forest ecosystem, taking into account regional participation in the development of methods and their application for sectoral evaluation is a necessary condition for planning right adaptation in the region. Sectoral vulnerability assessment of forest ecosystems is an indispensable aspect to successful development assistance and sustainable development policy formulations for achieving the United Nation's Millenium Development Goals in West Africa. This information is necessary for the formulation of meaningful forest ecosystem based adaptation measures and policies. Hence, in this paper, the vulnerability of the forest ecosystem is viewed from a sectoral approach, by linking sectoral vulnerability of economic sectors to the opportunities forest ecosystem provides for national development or the absence of it. On one hand, it proposes a step by step methodological framework for vulnerability assessment of sectors jointly identified by stakeholders as important for its national development and on the other, shows the danger of treating the forest in isolation or over look the important sectors that feeds on forest ecosystems.

**Keywords:** Economic sectors, forest Ecosystem, Vulnerability