

# Land Types and Sustainable Cocoa Production: Lessons from GIS Application

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## **Abstract**

Sustainable cocoa production demands a range of biophysical conditions of land. The paper reports on the levels of sustainability of cocoa production on different soil types under different tree cover intensities. Geographic Information System (GIS) analytical functionalities were extensively applied in the study. The spatial distribution of cocoa was modeled from geo-located samples, and related to tree cover generated from Landsat ETM+ image for 2000 and soils types. There was a strong spatial association between cocoa density-distribution surface, soil types and tree cover. It was observed that soils that are naturally suitable for cocoa were still supporting extensive cocoa farms, whereas unsuitable lands that were initially cultivated with cocoa had only remnant or no cocoa farms. The outcome of this study indicates that decisions for cocoa cultivation should be informed by accurate information on the suitability of lands for sustainable production.