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The State of Ghana’s Cocoa Landscape and Yield Trends: Evidence from Sefwi Wiawso District

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Abstract

Ghana is one country that comes to mind when cocoa is mentioned. Cocoa constitutes 85 percent of the foreign export earnings from the agricultural sector and employs over 800,000 smallholder farm families. The current trend indicates that cocoa farmers in Ghana are drifting from shaded cocoa to the no shade. This practice is a major contributing factor to deforestation, input demanding, short productive life and low yield over the production period. Farmers and policy-makers faces trade-offs between shorter-term economic maximisation and long-term ecological sustainability. It is quite apparent that with dwindling forests for new planting, cocoa agroforestry holds the key to future outputs and productivity in cocoa production.

The research therefore aims at determining the state of Ghana cocoa landscape and its associated yield trends. The multi stage sampling technique was employed to selected 200 cocoa farmers in the study area. Data obtained from the respondents were analysed using descriptive statistics and inferential analysis. The yield curve model was also adopted to determine the yield trend under the various cocoa agroforestry systems.

From the analysis, the R square value obtained under the no shade, low shade, medium shade and heavy shade are 77, 61, 53, 56 percent, respectively. All the R squares of the various agroforestry systems are greater the 50 percent, indicating a significant relationship between cocoa yield and age of cocoa. The highest average yield per hectare was attained for the no shade in year 16 (794 kg ha⁻¹), for the low shade in year 22 (696 kg ha⁻¹), for the medium shade in year 19 (735 kg ha⁻¹) and for the cocoa under heavy shade in year 15 (546 kg ha⁻¹). The no shade cocoa system had the highest yield level among all the cocoa agroforestry systems but had a sharp fall in yield over time (after year 16).

The conclusion of the study is that, although the no shade cocoa system has higher yields, it is input demanding, environmentally unfriendly and has short productive life. The medium shade cocoa agroforestry system is the most effective way of optimising ecological, economic, and social outcomes and therefore need to be promoted in Ghana

Keywords: Cocoa agroforestry, Ghana, yield curve model