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"Competing pathways for equitable food systems transformation: Trade-offs and synergies"

Agroecological services to improve the livelihoods of cocoa farmers in Côte d'Ivoire

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Abstract

Food security and households' well-being are pressing challenges facing cocoa farmers, especially in Côte d'Ivoire (West Africa). Cocoa production alone is rarely sufficient to generate a subsistence income for farmers or to support their families. The introduction of agroforestry follows the idea that, when the different cultural practices are taken into account, the economic profitability of the by-products of agroforestry systems and their usefulness leads to a more just and efficient design of sustainable production. Agroforestry is the voluntary integration of trees in agricultural landscapes, according to any spatial arrangement or temporal sequence, to obtain benefits from the ecological and economic interactions between these different components. Thus, producers' key is value addition and link to the market. This study aims to analyse the different cocoa growing systems of smallholder farmers in Côte d'Ivoire and the socio-economic utility of the associated trees. We consider the cocoa-based agroforestry system by analysing its importance from the point of view of improving income and contributing to ecosystem services for sustainable cocoa production, taking into account objective and climatic criteria: additional production (wood, fruit, fodder, etc.) or services (windbreaks, regulation of microclimate, shading, etc.). Thus, a diachronic approach allowed us to evaluate the system by estimating with the farmers using and monetary value they give each species according to its use at a time t. Floristic inventories of 625 m^2 in 80 cocoa plots followed by semi-structured interviews with plantation producers in five localities of Côte d'Ivoire were conducted. Quantitative analyses of the variables and statistical tests were carried out using SPSS software. Carbon storage of cocoa-based agroforestry systems was calculated. Thus, the systems are characterised according to their floristic characteristics and their contributions to socio-economic indicators. The results will contribute to designing and implementing agroforestry systems with better commercial potential and resilience to the agroecological context.

Keywords: Agroforestry, carbon storage, cocoa, livelihoods, smallholder

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