Impact of Organic Farming Practices on the Profitability of Local Farmers in Science City of Muñoz, Nueva Ecija: Towards a Sustainable Agricultural Policy Framework

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Abstract

Organic farming has gained increasing recognition as a sustainable agricultural approach that balances environmental stewardship with economic development. As concerns regarding soil degradation, environmental pollution, and the long-term sustainability of conventional farming continue to rise, organic agriculture offers an alternative production system that promotes ecological balance, biodiversity conservation, and improved farm productivity. In agricultural communities such as the Science City of Muñoz, Nueva Ecija, the adoption of organic farming practices presents opportunities for enhancing farmers' livelihoods while contributing to sustainable rural development. This study examined the impact of organic farming practices on the profitability of local farmers in the Science City of Muñoz, Nueva Ecija, Philippines, and served as a basis for the development of a sustainable agricultural policy framework. Specifically, the study assessed the extent of implementation of key organic farming practices, including crop rotation, composting, natural pest control, soil conservation, and biodiversity enhancement. It further investigated their influence on various profitability indicators such as revenue generation, cost reduction, market access, profit margins, financial growth, and economic stability. Using a quantitative research design, data were collected from 150 local farmers through structured survey questionnaires administered using stratified random sampling techniques. Descriptive statistics and multiple regression analysis were employed to evaluate the level of implementation of organic farming practices and determine their relationship with farm profitability. The findings revealed that organic farming practices were extensively implemented and perceived as highly effective in promoting sustainable agricultural production. Results further indicated that these practices significantly enhanced farm profitability by increasing revenues, lowering production costs, improving access to premium organic markets, and strengthening farmers' financial stability. Among the variables examined, biodiversity enhancement emerged as the strongest predictor of profitability. The study concludes that organic farming is both economically viable and environmentally sustainable, supporting the principles of Sustainable Development Theory and the Resource-Based View. It recommends stronger collaboration among local government units, policymakers, academic institutions, non-governmental organizations, and agricultural stakeholders to expand organic farming adoption and ensure the long-term sustainability and profitability of local agricultural systems.

Keywords: Organic Farming Practices; Farm Profitability; Sustainable Agriculture; Biodiversity Enhancement; Agricultural Policy Framework.