Tropentag, September 10-12, 2025, hybrid conference

"Reconcile land system changes
with planetary health"

The role of key players in the stimulation of demand for agricultural technologies in Ghana

Scott Edward Agyemang

Leipzig University, Faculty of Economics and Management Science (SEPT Competence Center), Germany

Abstract

The study conducted a comprehensive literature review to examine the role of key players in the stimulation of demand for agricultural technologies with a specific focus on their contribution to agroecological transformation, sustainable natural resource management and improving livelihoods in Ghana. Whilst much research has explored the adoption of agricultural technologies, limited attention has been given to the actors who are responsible for the creation of demand creation, a gap this study sought to address. Agricultural technologies are pivotal in supporting agroecological practices that enhance productivity, conserve natural resources and promote resilience among smallholder farmers and as such their demand creation in a country like Ghana is worthwhile. This research found that governments influence demand through subsidies, agroecology-aligned policy frameworks, and investments that encourage sustainable practices. Financial institutions enable technology access by offering credit for environmental-friendly agricultural innovations. Farmer cooperatives enhance uptake of agricultural technologies through education and capacity building that align with agroecological principles and the technology acceptance model. Incubators and accelerators support Agri-tech start-ups that develop solutions for soil health, biodiversity and water efficiency which are key elements of sustainable resource management.

However, there is a notable gap in understanding the role of agricultural product buyers such as food processors and retailers in stimulating demand for eco-friendly technologies and this gap needs to be filled. At the firm level, demand is driven by co-creation with farmers, inclusive innovation, adaptive pricing and consumer-oriented product development aimed at sustainable food systems. Coordination mechanisms such as tri-sector partnerships are essential for aligning the roles of institutions and firms toward agroecological goals.

This study provides a foundation for future mixed-method empirical research, guided by institutional theory and the technology acceptance model to examine how stakeholders can co-create or coordinate to create demand for technologies that can boost agricultural production and ensure a better life for all.

Keywords: Agricultural technology, agricultural technology firms, coordination mechanisms , external business environment/ecosystem Players

Contact Address: Scott Edward Agyemang, Leipzig University, Faculty of Economics and Management Science (SEPT Competence Center), Straße des 18. oktober 31. room 437, 04103 Leipzig, Germany, e-mail: agyemangse@gmail.com