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“Reconcile land system changes  
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## Governance challenges in the ugandan coffee seed system

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### Abstract

Disease outbreaks and adverse climatic conditions increasingly affect coffee cultivation, exposing the sector's fragility. Developing and distributing disease-free and -resistant varieties is one pathway to improving resilience. Nonetheless, the functioning and governance of coffee seed systems remain insufficiently understood. Coffee seed systems feature public and private-sector varietal development and alter seed multiplication, adding nursery-based seedling production and modified distribution dynamics. This study assessed the governance of Uganda's coffee seed system to better understand how farmers access high-quality plants and to inform policy that can improve the efficiency and resilience of future coffee seed systems. It addresses research gaps resulting from a lack of systemic analyses of governance challenges in this vital sector. The research is a qualitative case study following a purposive sampling strategy to identify relevant actors across the seed supply chain. Data were collected through semi-structured expert and key informant interviews, focus group discussions, field observation, and participatory mapping exercises using the Process Net-Map tool. The qualitative content analysis focused on actor interaction and governance challenges. Central institutions include NaCORI, UCDA, private nursery operators, and exporters. Key findings reveal a highly regulated but weakly enforced formal seed sector, resulting in governance challenges at market, state, and community levels, and ultimately limited availability of quality seed. These include funding constraints affecting public sector research and extension, inadequate quality assurance mechanisms, and significant information asymmetry concerning seed system processes, actors and roles. Consequently, both the adoption of innovation and the transfer of knowledge face substantial obstacles, while informal, unregulated channels proliferate, causing distribution bottlenecks of genetically verified high-quality seeds and seedlings. As a result, the adoption of disease-resistant varieties remains below 10 %, despite high sector interest and the release of national disease-resistant Robusta and Arabica cultivars, which represent major opportunities. Addressing the key governance challenges in Uganda's coffee seed system will require stronger institutional coordination and investment, particularly in plant propagation and distribution, to ensure farmers' access to reliable, high-quality planting material essential for sustainable coffee production. The findings further inform seed system research relevant to other perennial tree crops.

**Keywords:** Agricultural innovation, coffee seed system, extension, governance challenge, institutional cooperation, knowledge asymmetry

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