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Business models for scaling soil health: Assessment of carbon farming projects in Kenya

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Abstract

Securing private-sector agricultural investment is crucial for enhancing soil health initiatives, scaling climate action, and sustainably transforming food systems. Agricultural carbon markets present a potential pathway for mobilising such investments by monetizing greenhouse gas emission reductions or removals, but they operate on a limited scale. Research on how to operationalize and scale agricultural carbon markets and the influence of different business models on the viability and inclusiveness of smallholder carbon farming projects in Africa is still limited. This study addresses this gap by analysing twelve carbon farming projects in Kenya that operate within the voluntary carbon market. The study identified four distinct models that vary in their funding sources and conditions of investment: (1) donor-financed, (2) investor-financed with forward purchase agreements (FPAs), (3) private-sector led with blended finance, and (4) buyer-led models. A comparative evaluation highlights the strengths and weaknesses of each model. Donor-financed models are crucial for piloting projects and maximising benefits for communities, yet they risk fostering donor dependency and high project costs. Investor-financed models provide reliable pre-financing but may restrict future profits due to binding FPAs. Private-sector models offer more market flexibility but come with increased financial risks and require ongoing efforts to secure funding. Buyer-led models concentrate control with investors, potentially creating power imbalances that may compromise fair benefit-sharing for farmers. Across all models, five cross-cutting lessons emerge: (i) investment terms significantly influence risk and reward distribution; (ii) achieving scale early and reinvesting profits is vital for economic viability; (iii) transparency in cost and revenue accounting is a pre-requisite for equitable benefit distribution; (iv) governance needs to incorporate bottom-up approaches to ensure ownership; and (v) reducing dependence on international intermediaries by empowering farmer-based organisations is crucial for inclusive governance. These findings provide valuable insights for project developers, financiers, and policymakers aiming to operationalize viable smallholder carbon farming initiatives in Africa and beyond.

Keywords: Business model, carbon farming, carbon markets, climate policy, governance structures, soil health

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