



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

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BACKGROUND

- Agricultural soils and food systems are central to **climate change mitigation and adaptation**.
- Carbon farming can increase carbon storage in soils and biomass and improve resilience, but smallholders face **adoption barriers**.
- **Carbon markets** can channel **private investments** to farmers by providing incentives for carbon farming.
- A key challenge is to **develop sustainable business models** that attract finance while benefitting farmers and ecosystems.



Sustainable business models = organizational arrangements that define how value is created, shared, and captured among actors, while ensuring economic viability, inclusiveness + positive environmental impacts.

RESEARCH QUESTIONS

Sustainable business models

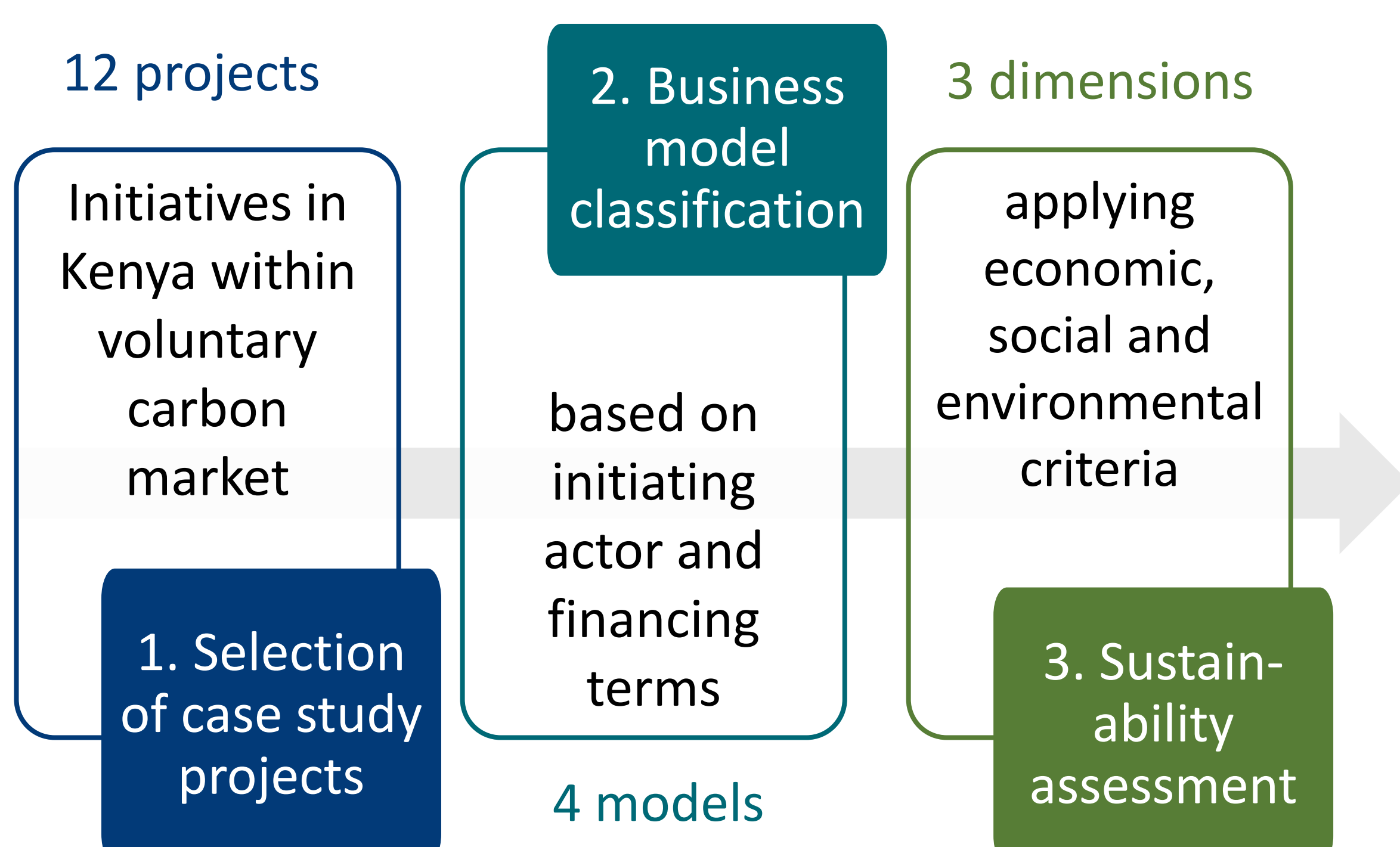
RQ1: What business models are used in smallholder carbon farming?

RQ2: How do the business models compare in their economic, social and environmental sustainability?

RQ3: What are the key lessons for improving the sustainability of carbon farming projects?

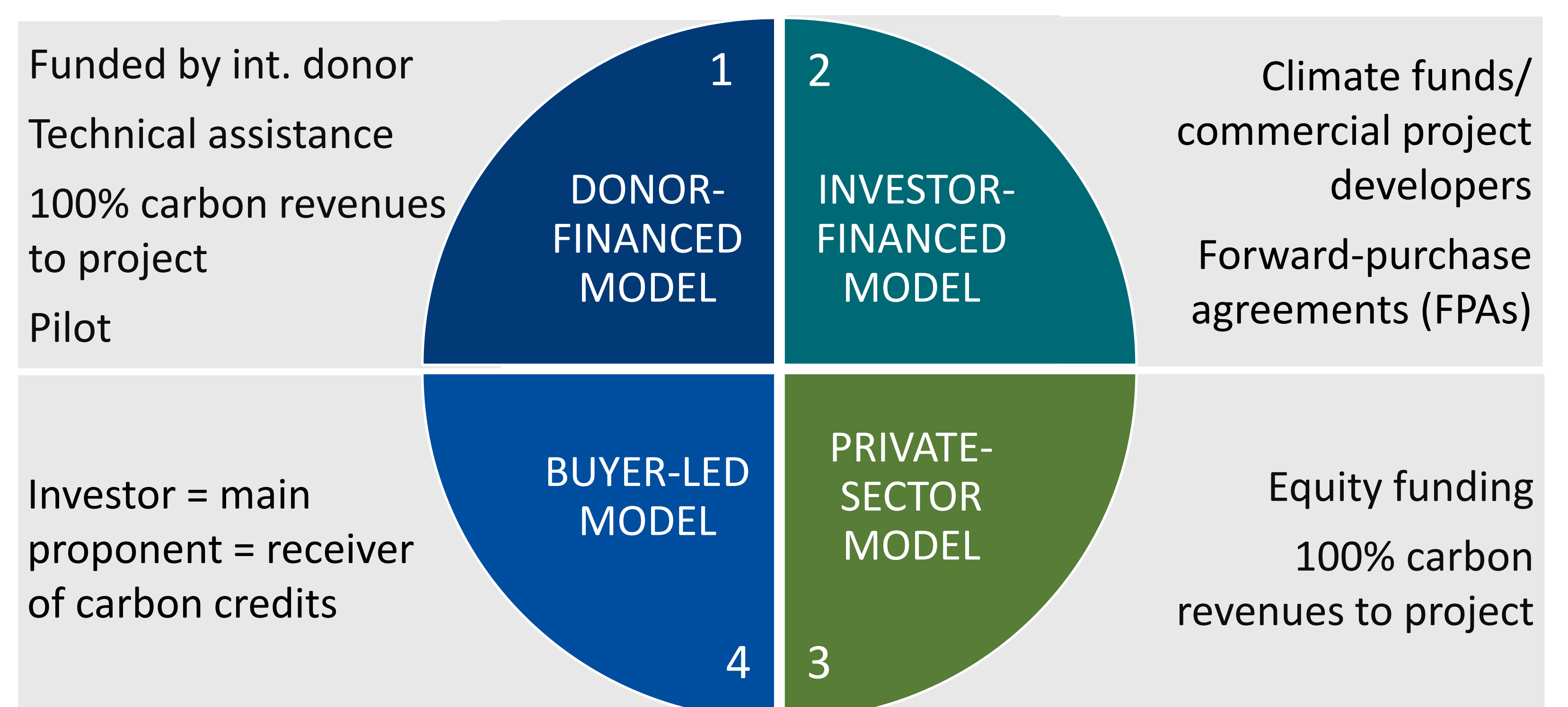
RESEARCH APPROACH

Multiple case study approach:



RESULTS: CARBON FARMING BUSINESS MODELS

RQ1: Classification based on initiating actor and financing terms:



RQ2: Comparative assessment of business models:

Donor-financed	Investor-financed	Private-sector	Buyer-led
+ Piloting projects	+ Secure pre-finance	+ Marketing flexibility of carbon credits	+ Secure pre-finance
+ Community benefits	- FPAs at low carbon price	- Continuous mobilization of funds required	- Centralization of power with single entity
- Donor dependency			

RQ3: Lessons for improving sustainability of carbon farming:

	Fast scaling and continuous reinvestments into project		Financing terms balancing investors' + farmers' interests
	Reduced reliance on international intermediaries		Transparent disclosures and benefit-sharing arrangements

CONCLUSIONS

Business models shape investment cases, but the broader institutional and regulatory environment influences their functionality:

- Promote **public-private co-investment models**.
- **Encourage commercial bank lending** to carbon farming projects via guarantees or preferential capital treatment for green investments.
- Increase **transaction cost cutting** investments in collective action, cooperation and contract farming models.
- Ensure equitable benefit-sharing and protection of farmers' rights, with **safeguards embedded in national regulations and carbon standards**.

