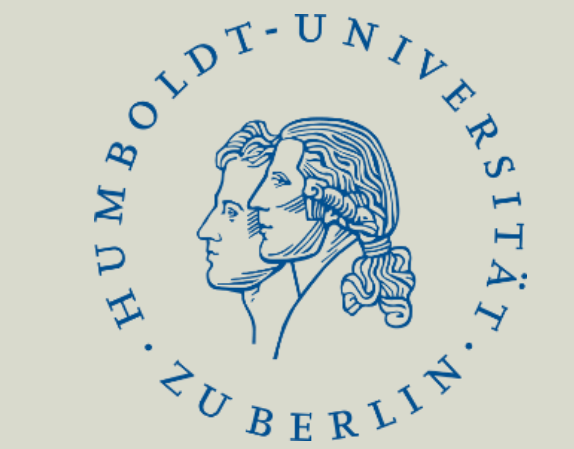




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# Analysing the charcoal value chain in the changing landscape of Turkana, North-west Kenya



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## 1 Introduction

Charcoal consumption in Kenya is a critical issue due to its widespread use as a primary source of energy for millions of households. It plays a significant role in the country's economy and supporting livelihoods but has serious environmental consequences.

- Turkana is a semi-arid area where charcoal production becomes one of the few viable ways for people to make a living from the land.
- Kenya's government is committed to increasing the country's tree cover to at least 10% by 2030.
- A ban on charcoal production in 2018 disrupted the supply chain, particularly affecting rural producers with no alternative income.

It is essential that energy needs and support for rural livelihoods are in balance with sustainable environmental practices. Identifying the determinants of a more sustainable charcoal value chain in Turkana is crucial, especially for nomadic pastoralists and agropastoral communities.

## 2 Methods

This research uses a mixed-methods approach that integrates value chain analysis, sustainable rural livelihoods assessment and sustainability hotspot analysis. The aim is to examine the complex interactions between charcoal production, distribution, marketing and end-use in the context of evolving socio-economic and environmental issues.

Value Chain Analysis

Sustainable Livelihood Assessment

Sustainability Hotspot Analysis

Participation, co-creation of knowledge, co-learning processes

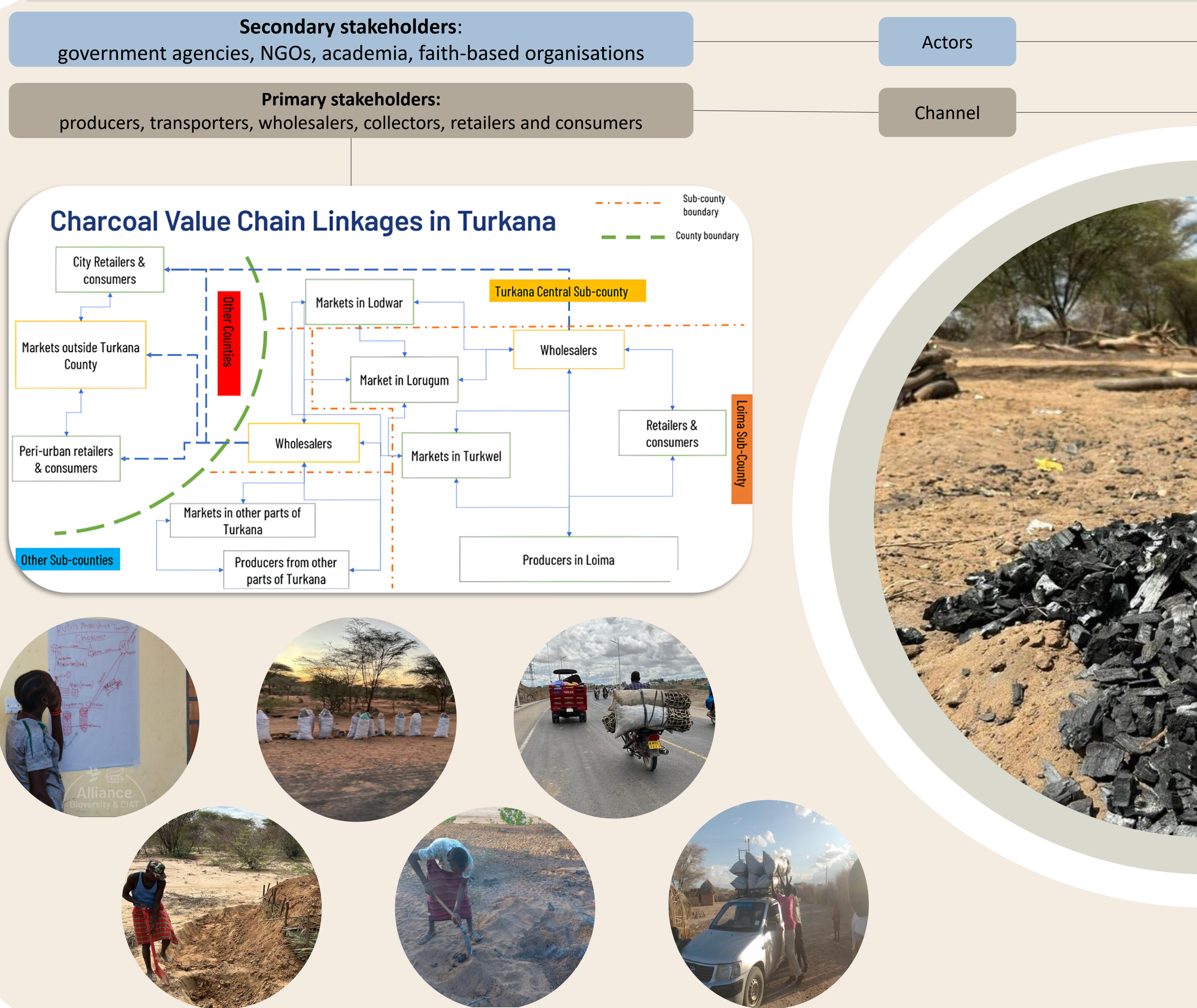
Data collection:

- Participatory approach:** combining qualitative and quantitative methods

- Primary data:** focus group discussions (N=5), expert and key informant interviews (N=15), stakeholder meetings, participatory workshops (N=2), household surveys (N=37), market surveys, field observation, and photovoice (September-December 2023) in the study areas of Turkana County, Loima Subcounty, Lobei/Kotaruk ward and Lokirama Lorengippi ward.

- Secondary data:** Web of Science, Scopus, Springer-Nature, Taylor, Science Direct, PubMed

## 3 Key findings

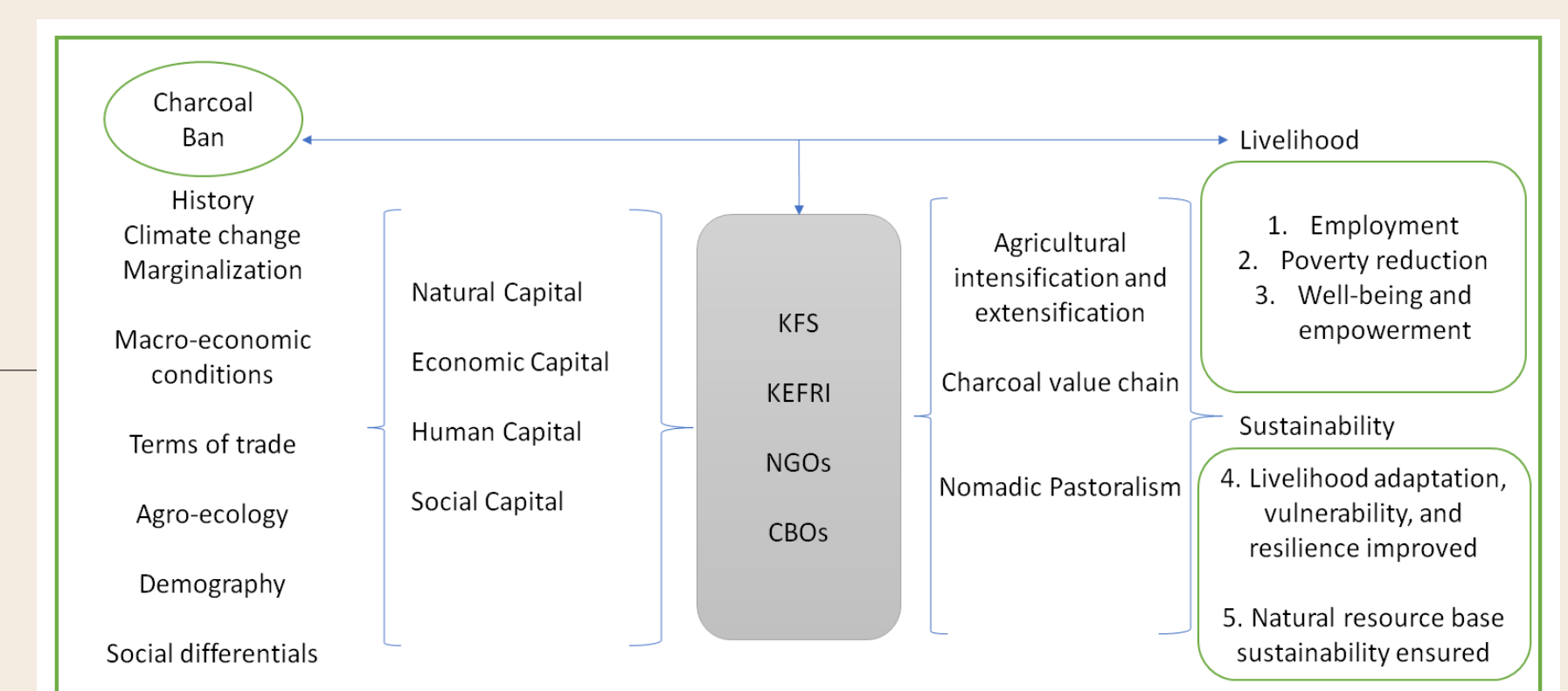


## 4 Impact of charcoal V.C in Turkana

**Social**  
Support of social investment e.g. education, medical fees, and food and nutrition.  
Empowerment: financial autonomy especially for women and youth

**Economic**  
- Source of income  
- Source of employment

**Environment**  
- Adaptation strategy

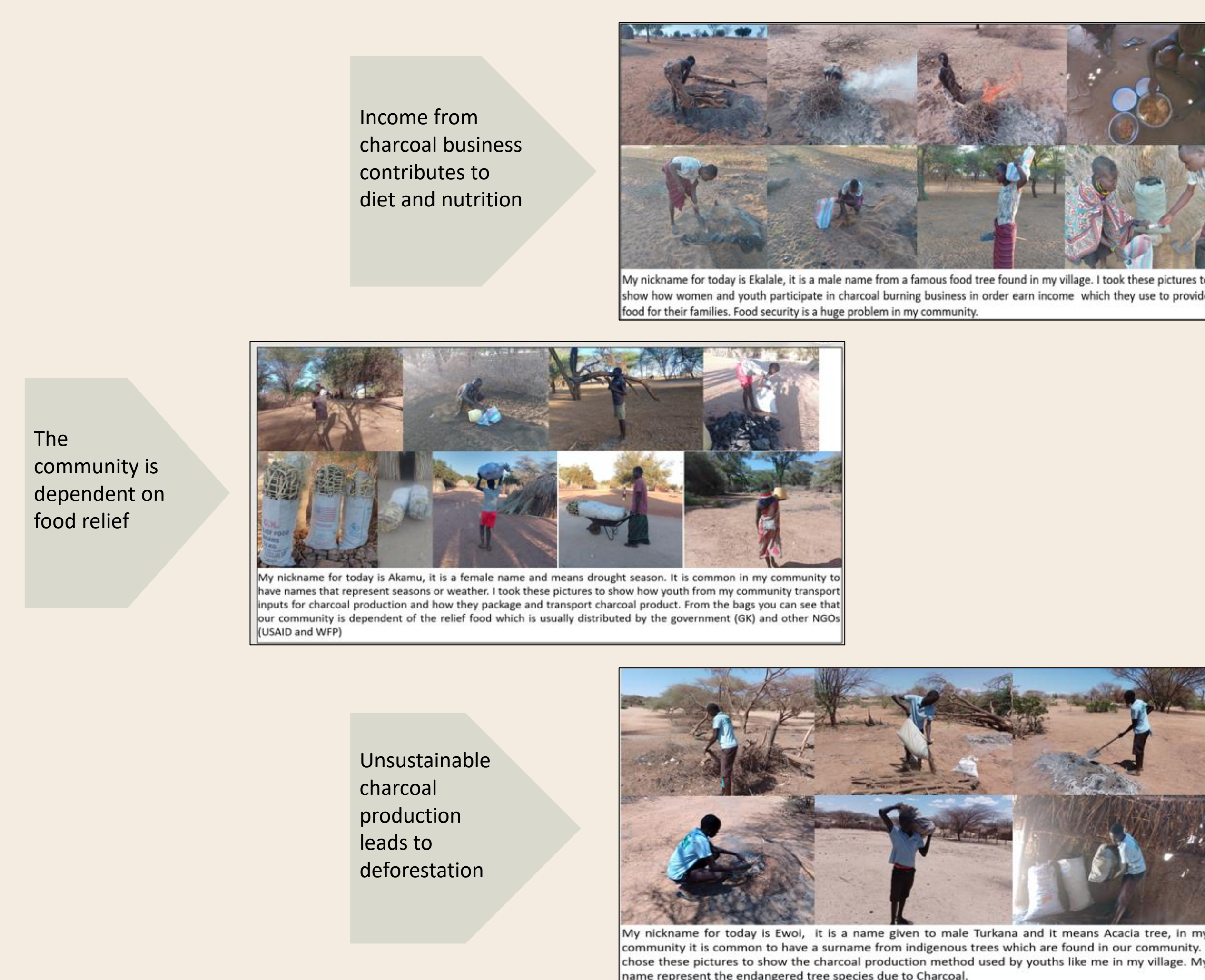


**Environmental**  
Input reduction, recycling, biodiversity, Land, and natural resource governance.

**Social**  
Co-creation of knowledge, Synergies, Social values and diets, connectivity

**Economic**  
Economic diversification, alternative livelihoods, charcoal ban, unequal profit distribution.

## 5 Photovoice results



## 6 Discussion



	Agro-Pastoralist (1) Napakir Areas	Pastoralist (Ats-Lokanimo Areas)	Agro-Pastoralist 2 (Kalenjanyang WFP)
<b>Socio-Ecological Dimensions</b>			
1. Value Chains	Relatively high margins due to proximity to urban markets (Lodwar) and the highways to Kitale. Relatively higher producer margin.	Mostly informal markets with low margins to producers (no transportation costs). The producer value chain targets transporters at the roadside.	Unclear legislation framework with relatively long value chains prone to logistical challenges especially in transportation. Low producer margins.
2. Tenure Systems	Customary land is fragmented into customary demarcation (Akwar) systems. Exclusive rights.	Overlapping grazing rights and common property resources under customary (Bila) systems.	Sub-division of community land to small individual plots (Akwar) with distribution favoring male household heads.
<b>Technologies/Practices</b>			
1. Agriculture Production	Intensive well-integrated crop-livestock production. Agroforestry practice. Traditional technologies (stink system).	(Semi-) Subsistence, seasonal crop- (full-time) livestock production (single plot) and stink system.	Conversion of forest to farmland and from subsistence pastoralism to crop production.
2. Charcoal Production	Pro-active reforestation projects and community initiatives.	Selective cutting of dead woods and trees on farms in communal rangelands, community forests, and riverbed.	By-product of cleaning trees for agricultural land.
<b>Sustainability Outcomes</b>			
1. Socio-economics	Charcoal production as part of agricultural intensification.	Charcoal as part of livelihood diversification.	Charcoal as a cash-off cash for the youth and women who have no access to farmlands and do not own livestock.
2. Ecological	Reforestation on community-owned land to reduce the pressure of deforestation and landscape degradation.	Continuous degradation and biodiversity loss that in long-term reduces community resilience.	Permanent loss of indigenous tree species and forest forests replaced with invasive Prosopis juliflora species or used for farming.
	Synergies	Trade-offs	Pitfalls cycle

- Disconnect between policy and practice
- Primary stakeholders with minimum influence
- Top-down approach in policy implementation
- Charcoal ban is driving more people to unsustainable source like firewood due to lost income in Turkana
- Inclusive participatory bottom-up approach is needed

## 7 Conclusion

- Primary stakeholders have limited livelihood options
- Top-down approach (charcoal ban) ignored by producers
- No one-size-fit-all solution (require tailored approach)
- Exacerbated by effects of climate change (drought and floods)
- Discrimination of youth and women within charcoal VC
- Complex action situation between livelihood and environment
- Content specific, as it is different from one location to another (agro-pastoralists and pastoralists)
- Power and information asymmetry
- Disconnect between policy and practice



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