

Coping and Social Cohesion Mechanisms in Addressing Climate Change and Land Degradation in Ghana

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Introduction

- The West Africa sub-region faces major challenges in ensuring sustainable livelihoods in the context of climate change and land degradation.
- Resilient agriculture through responsive adaptation strategies is vital.
- Social cohesion and indigenous practices are key in enhancing resilience.
- This study identifies the community-based responses and collective mechanisms that enhance resilience among farmers in the Northern Region of Ghana.

Methodology

Phase	Method	Sampling strategy	Sample size
1a	Field observations	Purposive sampling	3 fields
1b	Key-informant & Expert interviews.	Purposive sampling	2 key informants 2 experts
2	Household survey	Systematic & Snowball sampling	60 farmers
3	Focus group discussions	Stratified & Random sampling	8 focus groups

Results

Perceptions: Farmers perceived climate change, land degradation, and deforestation as critical threats. Pests and diseases were also frequently mentioned.

Gender Differences: Males focus on production impacts; females on quality of life.

Extreme climate Events	Impacts reported by female farmers	Impacts reported by male farmers
Irregular rain pattern	Food insecurity	Increase cost of production
High temperature	High incidence of illness	Reduction in working hours
High incidence of drought	Water scarcity	Increase in crop pests and diseases
High incidence of flood	Food insecurity	Total crop failure
Erratic rain	Total crop failure	Reduction/loss of income

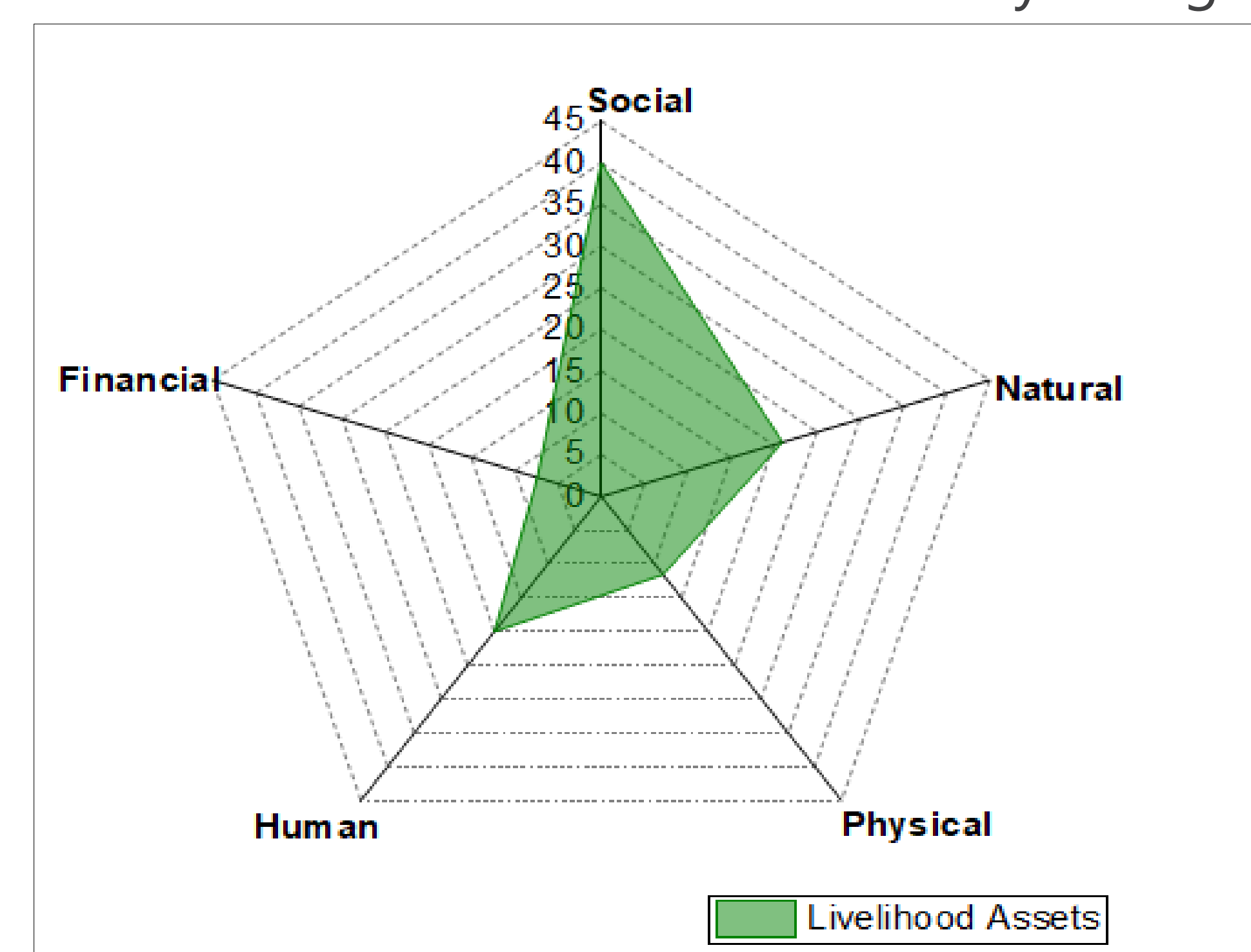
Coping Strategies: Sustainable land management (SLM) practices, reliance on social networks, non-farm jobs, food intake reduction, selling livestock.



Figure 1: Effect of crop rotation (soybeans before maize); left with soybeans, right continuous maize

Social Capital : Communal labour, sharing food and planting materials, micro loans from social networks were more common among female farmers.

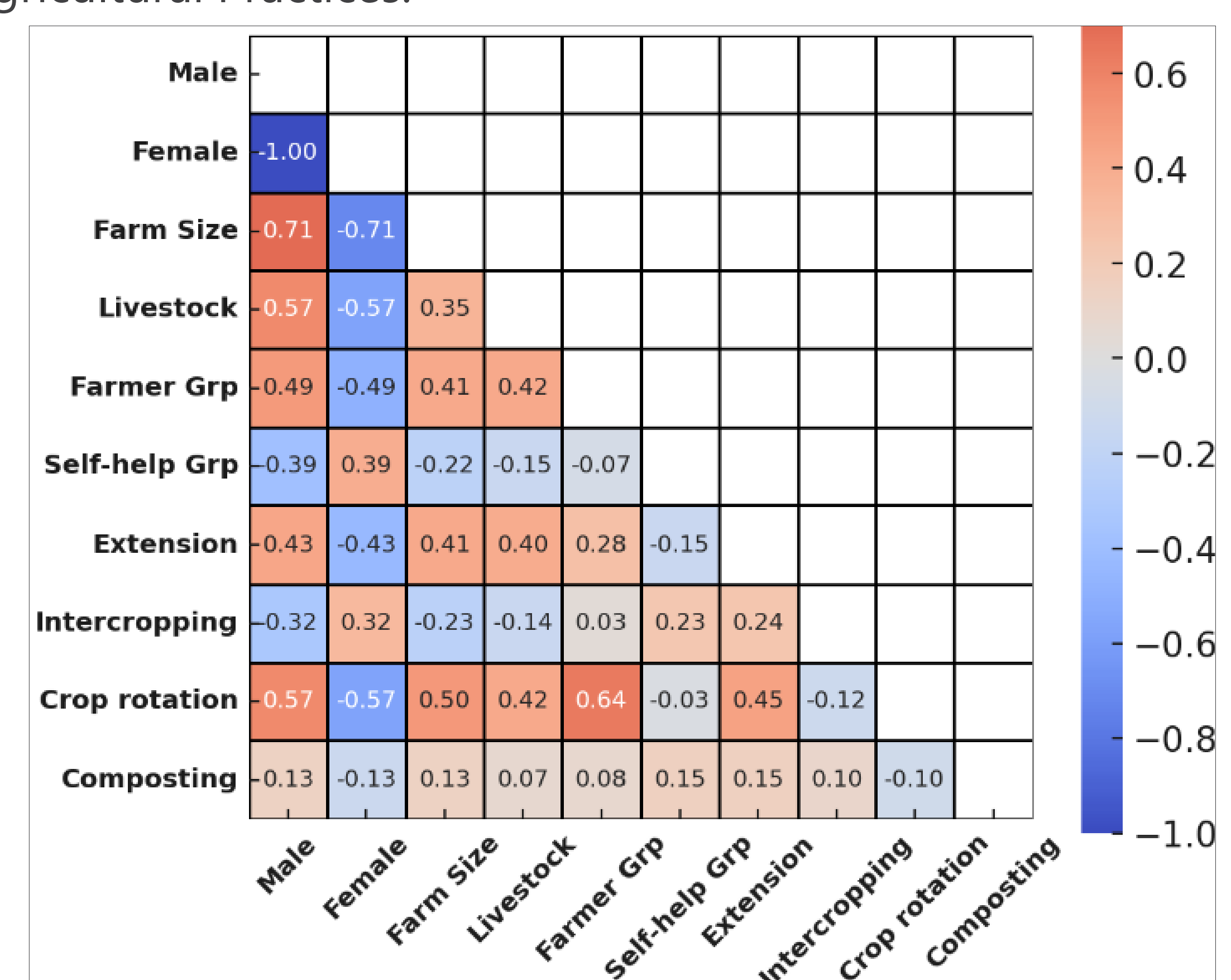
Figure 2: Distribution of Livelihood Assets by Category



Challenges were identified under economic, socio-cultural, and technical categories.

Sociocultural challenges differed by gender and disproportionately affected female farmers. Eg, Unequal access to key inputs due to gender roles.

Figure 3: Correlation heatmap of Gender, Farm Characteristics, and Agricultural Practices.



Heatmap: The colours indicate the strength and direction of the correlation.

Females are less likely to be associated with larger farms, SLM practices compared to males.

What this study adds

- Male farmers were more environmentally sensitive than females.
- Social cohesion is the most important means of coping especially for female and vulnerable farmers.
- Farmers are becoming more concerned about environmental sustainability.

Conclusion

- Social cohesion and indigenous knowledge are crucial for effective adaptation.
- However, gender-specific barriers must be addressed to ensure equitable resilience.