

A Gendered Perspective on Household Sensitivity to Environmental Hazards in the Volta Delta, Ghana

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Introduction

- Gendered resource allocation constrains access to livelihood assets and adaptation strategies or decision-making for women (Codjoe et al. 2011; Carr & Fisher, 2015).
- Vulnerability to environmental hazards is thus differentiated by gender (Codjoe et al., 2011; Shackleton et al., 2014). Studies that explore gender-differentiated sensitivity to hazards in deltas are scant.
- The effect of gendered resource access is assessed with household adult sex composition (Shackleton et al., 2014).
- Sensitivity, a component of vulnerability, is measured by the impact of a hazard on the economic, environmental and human capital asset of a household.

Objective

- We examine gender-differentiated sensitivity of households (HH) to flooding and droughts in the Volta Delta

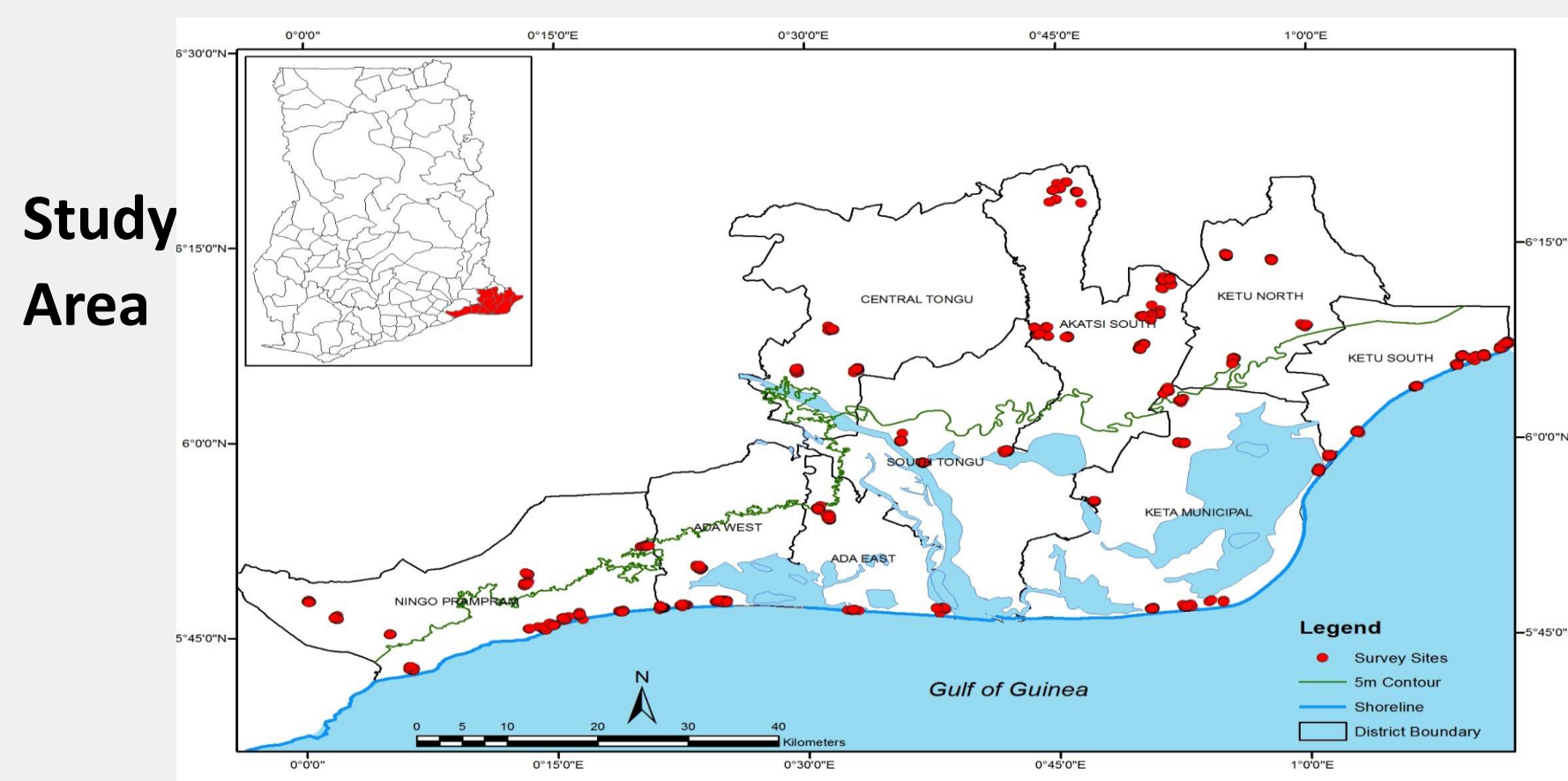
Hypotheses

- Households with male adults are less sensitive to environmental hazards than those with only female-adults

Methodology

Data: 2016 DECCMA Survey on 1364 households in 9 districts

Analysis: Logistic regression models



Results

Figure 1: Percent Distribution of households by gender composition

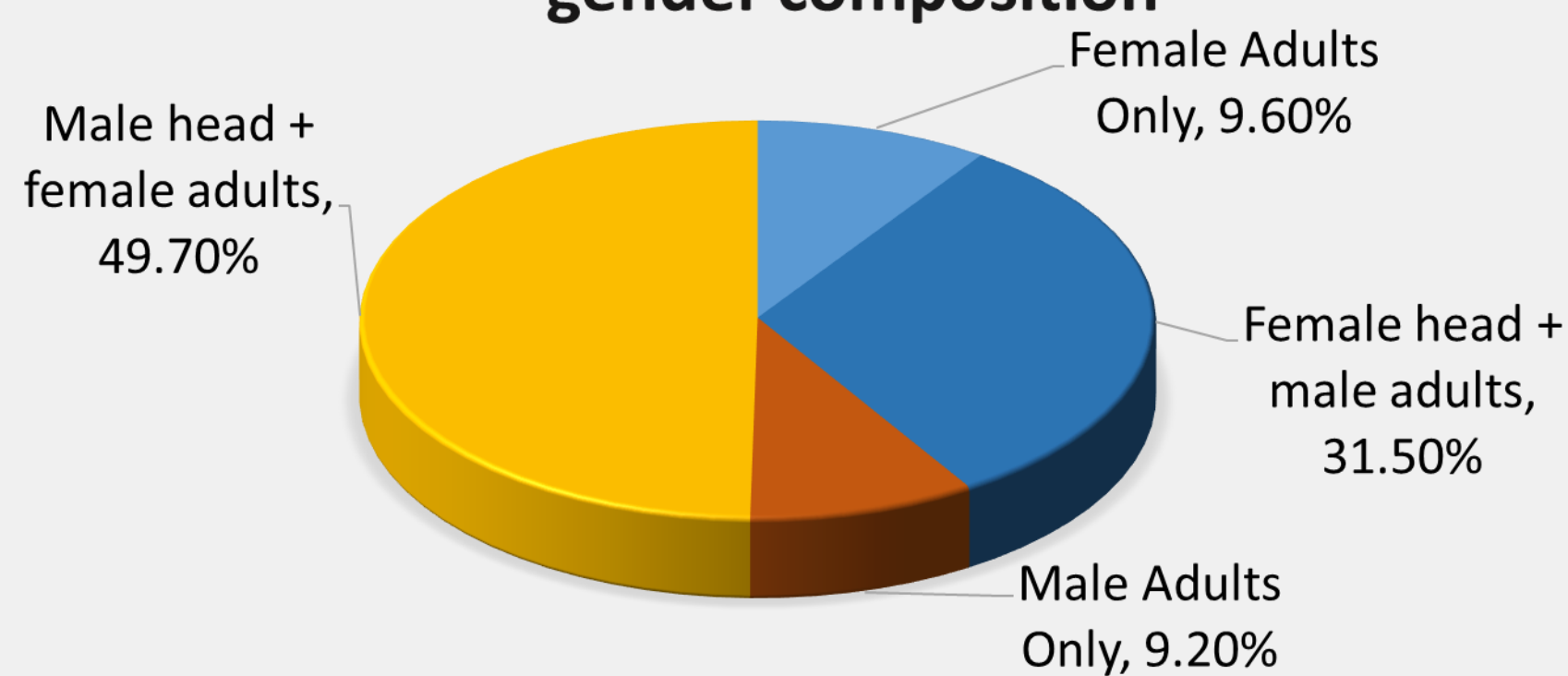


Figure 2. Sensitivity to Flood and Drought by Household Gender Category

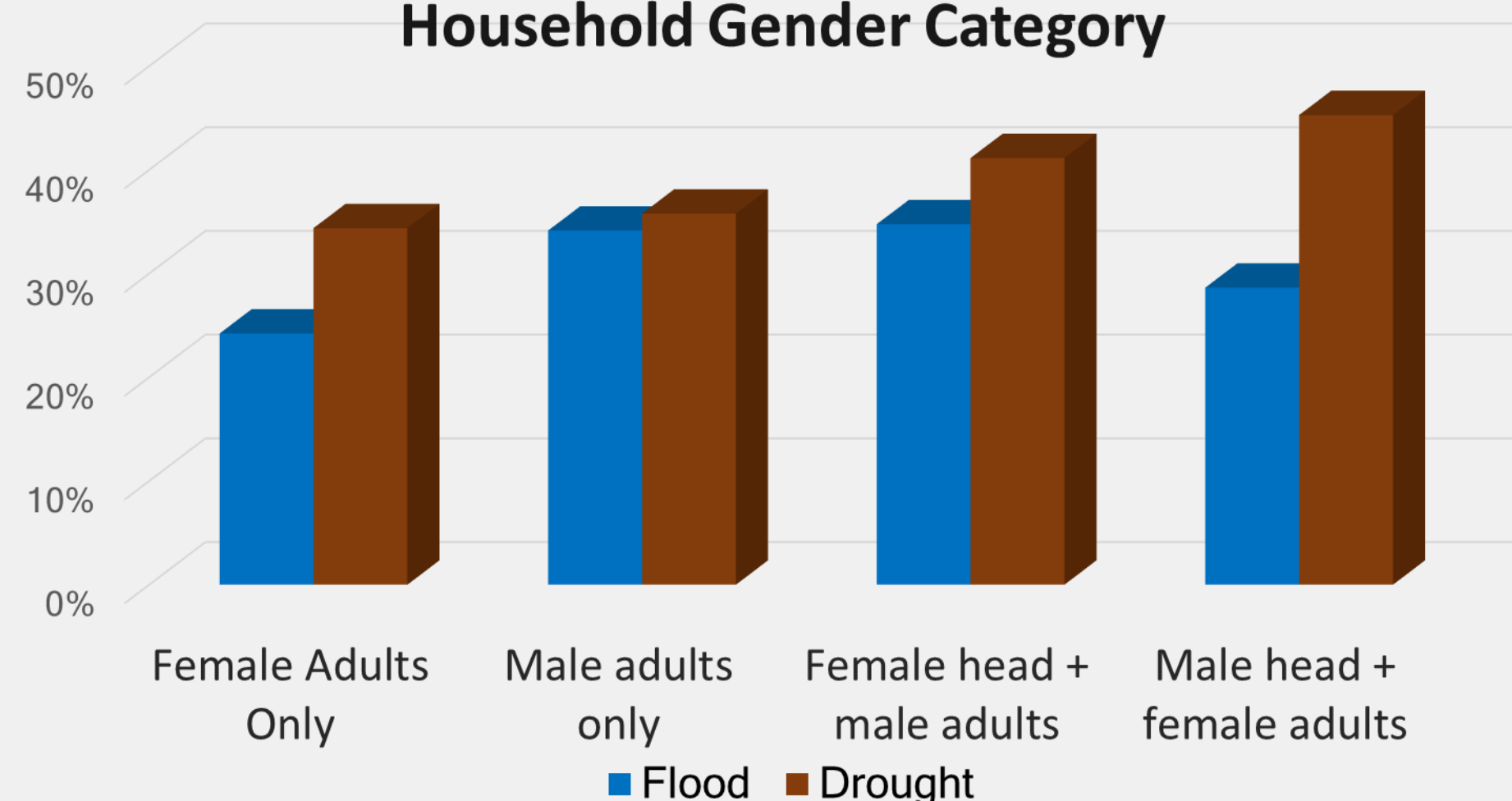


Table 1. Odds Ratios (OR) of Household Sensitivity to Flooding and Drought by Gender Composition (n=1,364) - All households

Household (HH) Characteristic	Flooding	Drought
	OR (s.e)	OR (s.e)
Household Gender Category	<i>Model 1</i>	<i>Model 2</i>
Female Adults Only (r)		
Male Adults Only	2.083 (.309)*	1.275 (.311)
Female head + male adults	2.454 (.255)***	1.209 (.252)
Male head + female adults	2.014 (.248)**	1.568 (.242)*
Household size	1.059 (.027)*	1.085 (.028)**
District of residence (r –Ada East)^F		
Ada West	.178 (.272)***	.772 (.352)
Ningo-Prampram	.183(.310)***	1.004 (.311)
South Tongu	.472 (.293)*	2.400 (.298)**
Keta	.778 (.207)	4.619 (.226)***
Ketu South	.390 (.254)***	1.826 (.263) *
Ketu North	.503 (.277)*	9.102 (.288)***
Akatsi South	.445 (.264)**	16.732 (.390)***
Central Tongu	.133 (.377)***	4.129 (.297)***

Table 2. Odds Ratios of Household Sensitivity among only female-headed and only male-headed households

Household Characteristic	Flooding	Drought
	OR (s.e)	OR (s.e)
Female headed Hhds Only	<i>Model 3</i>	<i>Model 4</i>
Female Adults Only (r)		
Female head + male adults	2.785 (.273)***	1.122 (.319)
Male headed Hhds Only	<i>Model 5</i>	<i>Model 6</i>
Male adults only (r)		
Male head + female adults	.940 (.229)	1.219 (.236)

*** p<.001; **p<.01; *p<.05 ^p<.1 (r) Reference category (s.e) Standard error

All models (1-6) include other HH sociodemographic and economic variables.

Detailed results are available upon request

Discussion/Conclusion

- Vulnerability to environmental change hazards is both differentiated and distinct by gender.
- Gendered vulnerabilities are hazard- and place-specific.
- Sensitivity to drought is less gender-differentiated compared with sensitivity to floods.
- Households with no male adults are less likely to be sensitive to the impacts of flooding.
- More nuanced gender analysis must explore intersections with other household characteristics or members' characteristics.
- These findings have implications for understanding adaptive capacity and investigating adaptation options in the Volta Delta.

References

- Codjoe, S. N. A., Atidoh, L. K., & Burkett, V. (2011). Gender and occupational perspectives on adaptation to climate extremes in the Afram Plains of Ghana. *Climatic Change*, 110(1–2), 431–454.
- Fisher, M., & Carr, E. R. (2015). The influence of gendered roles and responsibilities on the adoption of technologies that mitigate drought risk:... *Global Environmental Change*, 35, 82–92.
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