Migrant Women's Food Insecurity Experiences in the Breadbasket of Ghana

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Abstract

Migration has become a safety net for smallholder farmers across Africa in response to rapidly deteriorating climatic conditions and the resulting low agricultural productivity. In semi-arid northern Ghana, especially the Upper West Region, many people migrate to rural farming communities in the Middle Belt of the country – popularly referred to as Ghana's breadbasket – to meet their food security needs. In recent times, there has been an increase in the involvement of women in these migration patterns. This notwithstanding, many studies on migration and food security in Ghana continue to focus on the experiences of households or male migrants, leading to a dearth of knowledge about migrant women's food insecurity experiences. Using a cross-sectional study design and northern Ghana as a survey case study (n=504), we employed generalized linear latent and mixed models (gllamm) in this paper to examine the key determinants of the food insecurity experiences of migrant women with emphasis on their length of stay. Food insecurity was measured using a modified version of the Household Food Insecurity and Access Scale (HFIAS). Our findings demonstrate that, even after migrating, women face several barriers that continue to predispose them to food insecurity, including lack of social support and autonomy. Given the general lack of empirical evidence on the food security experiences of women migrants, this analysis generates insights on the correlates of food insecurity among women migrants and, more broadly, the value of migration as a fallback strategy for navigating food security among women.

Keywords

gender, food security, internal migration, rural livelihoods, climate change, sub-Saharan Africa

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Introduction

Internal migration is a longstanding livelihood strategy for agrarian communities in sub-Saharan Africa and the Global South more broadly (Abdul-Korah 2011, Afifi et al 2016). With increasing pressure from climate change and variability, smallholder farmers typically resort to migration in search of better edaphic and climatic conditions to navigate chronic food insecurity (Francis 2002, Gemenne and Blocher 2017). In most semi-arid contexts in sub-Saharan Africa, this form of movement used to be generally seasonal and circular in nature (Antwi-Agyei and Nyantakyi-Frimpong 2021, Kuuire et al 2016, Rademacher-Schulz et al 2014, van der Geest 2010). In recent times, smallholder farmers are relocating to areas with better ecological conditions and staying longer periods of time or permanently (Baada 2021, Kuuire et al 2016). Also, while agrarian-based migration in Ghana was historically considered to be the preserve of men, women were believed to lean more toward employment opportunities in cities and urban areas (Lobnibe 2010). This trend has, however, changed in recent decades as women farmers are increasingly moving to the Middle Belt region in search of better farming conditions (Baada 2021, Lawson et al 2019, Lobnibe 2008).

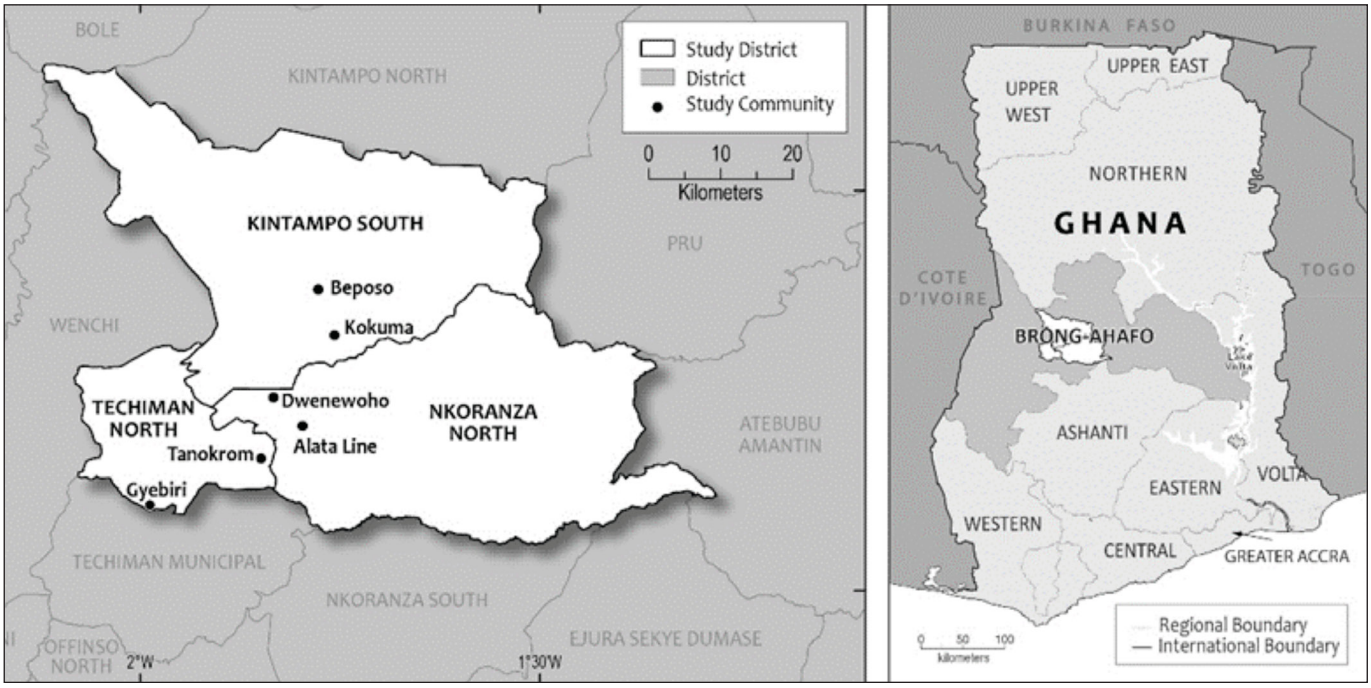
Consistent with the long-standing perception of agrarian-based migration as a predominantly male activity, migration research has focused mainly on the food security experiences of men. When the lived experiences of women are considered, they are subsumed under the experiences of entire households. Moving away from this biased focus, this paper explores the food security experiences of migrant women in the Middle Belt of Ghana by drawing on the findings of a large survey with migrant women farmers. Our results show that a significant proportion of migrant women have positive food security experiences in the destination areas. When an intersectional lens is applied, these food security outcomes are differentiated because of the potential modifying role of underlying factors such as decision-making autonomy, education, and wealth. We situate our findings within the broader relationships drawn between gender, migration, and development.

Methods

Study Context

Cross-sectional data was collected between September and December 2016 as part of a broad research project aimed at understanding the lived experiences of migrant women farmers in rural parts of the Brong Ahafo Region (BAR). BAR is located in the Middle Belt and is the sixth most populous region of Ghana. Agriculture and related work are the main occupations and economic activities of most people. Using data from the 2010 Population and Housing Census, the last official national census for which results have been released, we selected the three highest migrant receiving districts for data collection: Nkoranza South, Techiman North, and Kintampo South. A two-stage stratified sampling technique was used to locate respondents in these districts. Since unique locational characteristics tend to shape the access of migrant women to adequate amounts of nutritious food, we first classified local communities into two groups, those who live in "large rural towns" and "small rural towns". In the second stage, we randomly sampled households from both these groups that resulted in an eligible sample of 750 migrants. A survey questionnaire was successfully administered to 700 migrants between the ages of 18 and 80, representing a response rate of 93.3%. The survey was pre-tested prior to data collection to ensure clarity of the questions and their relevance. The survey asked detailed questions about the status of household food security, how long the respondents have been migrants in BAR, migration decisions, autonomy, empowerment, and demographic factors. Ethics approval for the study was obtained from Western University's non-medical research ethics board.

Figure 1: Map of Ghana and Study Area



Measures

Table 1 presents the results and explanatory variables used in the analysis. Our main dependent variable is food insecurity, which was measured using a modified version of the Food and Agricultural Organization of the United Nations (FAO) household food insecurity scale, or HFIAS. HFIAS measures a household's perception of their access to food (Swindale and Bilinsky 2006). It is relatively easy to administer through surveys compared to other food security measures such as dietary recalls or anthropometric indicators (Kabunga et al 2014, Maxwell et al 2014, Swindale and Bilinsky 2006). HFIAS captures a higher prevalence rate and correlates well with other indicators. The HFIAS scoring approach was used to categorize participating households and migrants into the food-secure and food-insecure groups and food-secure and food-insecure migrants, respectively (Coates et al 2007). The nine-item measure resulted in a scale with the range [9-24]. Some questions were modified to accommodate the specific circumstances of the study context using feedback from our research assistants. For example, the HFIAS question on "worrying about not having enough food" was adjusted to include the fact that some households in Ghana produce their own food. The question of "eating a limited variety of food due to lack of resources" was modified to document whether households reduced the size of meals or skipped meals because there was not enough money for food.

Independent Variables

The key independent variable was duration of migrant residence in BAR. This was measured by asking respondents how long they have lived in BAR as migrants, with a further question on the reasons for migrating to BAR. We also included questions on migrant networks through social connections and support (i.e., "having someone to have a good time with", "confide in" or "take them to hospital"). We classified the response options into "1" (never), "2" (sometimes)and "3" (always). We also measured equality in decision making in the household using seven questions asking who decides: what and where to plant, what farm produce to sell or make decisions about, major purchases, daily purchases, visits to family members, participation in events and children's education. We created a dichotomized variable by summing up these responses. Similarly, we measured autonomy in making decisions using five questions that asked women if they ever decide to plant crops, sell crops, join an organization or visit a family member without consulting a family member within their current household. The socio-demographic characteristics of each participant were recorded, comprising education, age, marital status and religion. The economic status of the respondents was assessed using a wealth score or *index*. This index was calculated as a function of 22 self-reported assets: number of houses, animal ownership (e.g., cattle, goats, chicken), motorized vehicles and bicycles, and other household amenities (e.g., fridge, television, computer, cell phone). Each asset was standardized before principal component analysis was used to calculate a wealth score for each household.

Data Analysis

Food security was evenly distributed and based on distributions, generalized linear latent and mixed models (gllamm) with binomial and a logit(log) link function was employed in our analysis. Gllamm was employed to correct for any bias in the standard errors and parameter estimates due to the hierarchical nature of the data, which violates the assumption of independence of respondents in standard logistic regression. In our analytical strategy, we first provide the means and proportion of each variable. Second, we assess the multivariate relationships between potential cofounders and food insecurity.

Results

Descriptive Statistics

As shown in Table 1, about half the participants reported being food insecure. Most of these food-insecure women were newer migrants who had lived in BAR for less than two years. Farming was accepted as their main reason for migrating to this region. Many women (48%) indicated that they sometimes have people to socialize with (i.e., have a good time with, confide in, or help each other to get to the hospital). Approximately 65% of the respondents indicated a lack of autonomy in making household decisions, while 52% reported unequal relations in household decision-making. Sixty-one percent of the women had no educational qualifications and 74% of the participants said that they were married. The average age of the participants was 40 [SD=14, range 18–89], with the majority identifying themselves as Christians (78%). Most migrants originated from the Lawra (36%), Nandom (19%), Jirapa (16%), Nadowli/Kaleo (12%) districts of the Upper West Region.

Multivariate Results

The multivariate results shown in Table 2 indicate that compared to those who do not remember when they migrated to BAR, migrants whose length of residence is less than two years (OR = 3.19, $p \leq 0.01$) and those who have been in BAR between two and five years (OR = 3.65, $p \leq 0.01$) were more likely to be food insecure. Women who migrated to join family members were more likely to be food insecure compared to those who migrated to engage in agriculture (OR = 2.21, $p \leq 0.01$). Furthermore, women who had no autonomy in deciding what the household cultivates (OR = 1.60, $p \leq 0.01$) were more likely to be food insecure compared to women who reported having autonomy in these decisions. Women who sometimes (OR =2.61, $p \leq 0.01$) or always had social networks and connections (OR =3.69, $p \leq 0.01$) were more likely to be food insecure. Lastly, compared to women in female-headed households, migrant women in male-headed households ($ß = 0.01$, $p \leq 0.01$) were more likely to be food insecure.

Table 1: Descriptive Statistics		
List of variables		**Frequency (%)**
Food security	Secure	246 (48.81)
	Insecure	258 (51.19)
Length of migration	Less than 2 years	249 (49.40)
	2-5 years	157 (31.15)
	Don't remember	98 (19.44)
Reason for migrating	Farming	259 (51.39)
	Business	25 (4.96)
	Join family	135 (26.79)
	Other	85 (16.87)
Autonomy in deciding what to plant	Yes	177 (35.12)
	No	327 (64.88)
Equality in household decision making	Equal	241 (47.82)
	Unequal	263 (52.18)
Social support	Never	146 (28.97)
	Sometimes	243 (48.21)
	Always	115 (22.82)
Household type	Female centred	71 (14.09)
	Male centred	36 (7.14)
	Nuclear	212 (42.06)
	Extended	150 (29.76)
	Polygamous	35 (6.94)
Age of respondent	30 or younger	142 (28.17)
	31–60	300(59.52)
	Over 60	62 (12.30)
Religion	Christianity	392 (77.78)
	Muslim	83 (16.47)
	Other	29 (5.75)
Marital status	Currently married	374 (74.21)
	Not married	130 (25.79)
Educational level	No education	309 (61.31)
	Primary or middle school	174 (34.52)
	Secondary school	21 (4.17)
Wealth	Richer	98 (19.44)
	Rich	103 (20.44)
	Middle	101 (20.04)
	Poor	101 (20.04)
	Poorer	101 (20.04)

Table 2: Determinants of Food Insecurity among Immigrant Women		
List of variables		**Food insecurity**
Length of migration (ref: Don't remember)	Less than 2 years	3.19 (1.71–5.96)***
	2–5 years	3.65 (1.89–7.03)***
Reason for migrating (ref: Farming)	Business	0.98 (0.36–2.64)
	Join family	2.21 (1.31–3.72)***
	Other	1.22 (0.65–2.29)
Autonomy in deciding what to plant (ref: Yes)	No	1.59 (1.00–2.55)*
Equality in household decision making (ref: Equal)	Unequal	0.36 (0.22–0.60)***
Social support (ref: Never)	Sometimes	2.61 (1.60–4.25)***
	Always	3.69 (1.94–7.04)***
Household type (ref: Female centred)	Male centred	0.01 (0.002–0.06)***
	Nuclear	0.50 (0.22–1.11)*
	Extended	0.67 (0.31–1.42)
	Polygamous	0.65 (0.23–1.85)
Age of respondent (ref: 30 or younger)	31–60	1.07 (0.63–1.82)
	Over 60	1.04 (0.45–2.35)
Number of children in the household		0.98 (0.90–1.06)
Religion (ref: Christianity)	Muslim	0.87 (0.47–1.62)
	Other	0.31 (0.12–0.79)**
Marital status (ref: Currently married)	Not married	1.09 (0.57–2.05)
Educational level (ref: No education)	Primary or middle school	0.65 (0.41–1.03)*
	Secondary school	0.54 (0.17–1.71)
Wealth (ref: Richer)	Rich	1.56 (0.78–3.13)
	Middle	0.92 (0.46–1.86)
	Poor	0.98 (0.48–2.00)
	Poorer	0.51 (0.24 –1.05)*
Constant		0.51 (0.147–1.740)
District level variance (co-variance)		0.046 (0.084)
Observations		504
*Notes: ß =Beta; Ref = Reference categories; *p ≤ .10, **p ≤ .05, ***p ≤ .01; CI = confidence intervals*		

Discussion and Conclusion

This paper examined the key determinants of migrant women's food insecurity experiences, with an emphasis on their length of stay, using a cross-sectional study design and generalized linear latent and mixed models (gllamm). As our findings show, half (51%) of the women who had migrated to BAR in search of better farming conditions reported being food insecure. Although this figure is high, it may reflect a relative improvement in food security after migration, as food insecurity is more severe in the migrant sending areas. Up to 62% of people in the Upper West Region, the region of origin of the respondents, are believed to be severely food insecure (Atuoye et al 2019). Although this result may suggest the potential of migration as an effective safety net for women from food-insecure settings, multivariate results on the determinants of food insecurity confirm that these impacts of migration are differentiated even among migrant women. Despite being part of a generally marginalized category, migrant women do not have uniform experiences of food insecurity.

Our study found a marked difference in the experiences of newer arrivals and older cohorts of female migrants. Compared to migrant women who could not remember when they moved to BAR, recent migrants were more likely to be food insecure. The latter category consists of those who had lived in the area for less than two years, and between two and five years. Migrant women who did not identify the year they relocated are very likely to be longtime residents of BAR. Earlier migrant arrivals have well-developed economic, cultural and social capital consisting of robust social networks, established livelihoods and income-earning opportunities, and strong familiarity with the local settings. All these aspects shape the access of migrants to food and economic resources. These forms of capital provide cushioning effects for older migrant cohorts, compensatory aspects that are weakly available to the newer migrant residents. Thus, the duration of residence in BAR exerts a positive influence on the food security of migrant women. This finding is consistent with other studies highlighting the linkages between social capital, livelihoods and food security experiences of

agrarian and migrant communities in Ghana (Baada 2021, Kansanga 2017, Kuuire et al 2016).

Our findings further show the differentiated impacts of migration motivations on the food security of migrant women. Women who had migrated mainly to engage in farming were more likely to be food secure compared to those whose main reason for migration was to join family members in BAR. Women in the latter category may undertake farming and other livelihood activities as part of a collective household and have limited input in household decisions around food production and use. This pattern has been documented in other contexts in sub-Saharan Africa (see Nakazi et al 2017, Ragetlie et al 2021, Tsige 2019). Conversely, women who identified farming as their main reason for moving to BAR may carry out agricultural activities independently and have better decision-making authority and access to food use. These migrant women may have already established their roles as farmers in their households, which may grant them more rights to access and use food. These findings support observations of earlier studies among farming households in many parts of sub-Saharan Africa, including Ghana, which noted that women in rural areas tend to have few rights over food resources within their households (Atuoye and Luginaah 2017, Ragetlie et al 2021). Weaker rights over the utilization of food resources within the family intensify food insecurity. However, given the reality that many people migrate from the Upper West Region to rural farming areas of BAR mainly for farming, at least some women who report migrating mainly to join family are still likely to engage in agricultural activities. But they do not identify themselves as agricultural migrants. This conclusion is consistent with prior studies, which show that many women farmers in the Global South are not given credit as farmers, despite performing equal or more tasks related to farming activities (Bryceson 1995, Doss 2010, Grabe et al 2015). Thus, it is possible that the higher likelihood of food insecurity among women who migrated mainly to join family may be rooted in the weak social recognition of women as independent farmers and its adverse effects on food access and use.

Similarly, our finding emphasizes the significance of individual autonomy in the experiences of food security of migrant women. Women who had little to no personal autonomy in deciding what their household cultivates were more likely to be food insecure compared to their counterparts who had some input in these decisions. The latter group are likely to make independent decisions on household food allocation and consequently have better access to food and its usages. This finding is consistent with several studies (see Apusigah 2008, Belvedere et al 2021, Debnath 2015, Munoz Boudet et al 2012) which demonstrate the strong linkages between women's authority in household decision-making and their well-being. This includes decisions related to farming, such as the specific crops to cultivate. Such studies additionally show that where women have more autonomy or power in household, livelihood, and farming decisions, there also tend to be better food and nutritional outcomes for women and children within such households (ibid).

Household structure and gender identity of the household head exerted a profound effect on the food security of migrant women. Our findings reveal that migrant women who were members of female-headed households were less likely to be food-insecure than those of male-headed households. Although primarily responsible for the well-being of their household members, migrant women in female-headed households are likely to have greater autonomy in household food and nutrition decisions. This may also be the case when migrant women are not the household heads themselves. Even in households that are headed by non-migrant women, food needs may be prioritized in ways that promote the food and nutrition security of household members. These findings confirm that women with greater autonomy and decision-making power within households often strive to improve nutritional well-being and household food security outcomes for all household members, especially other women and children (Belvedere et al 2021, Kulkarni et al 2015). These findings are a striking departure from other studies that underscore the marked vulnerability of female-headed households to food insecurity. Female-headed households are seen to experience higher levels of marginalization, poverty and food insecurity due to gender-based challenges in accessing agricultural resources and its negative outcomes for food production (Atuoye and Luginaah 2017, Felker-Kantor and Wood 2012, Kansanga et al 2020).

Finally, the findings of our study indicate that migrant women with stronger social connections and interactions were more likely to be food insecure compared to those with weaker or non-existent networks. This result may appear inconsistent, particularly when assessed in relation to our previous finding on the positive outcome of migrant women's length of residence on capital accumulation and food security. This seemingly contradictory result is related to the sociocultural dynamics of socialization in Ghana and the ways in which it shapes food security. Atuoye and Luginaah (2017) found that food insecurity is stigmatized in the migrant-sending areas of the Upper West Region. Some people and households experiencing food insecurity tend to be secretive about their dire circumstances and do not disclose it openly to others. Although their finding was predominantly for male residents, it may be extended to migrant women in BAR. Second, the sociocultural fabric of the Ghanaian society (and the Upper West Region in particular) values socialization and community interactions, with many people relying on these social interactions as a coping strategy to effectively manage their economic, social and other stressors. However, these social settings also end up being occasions and avenues where already limited resources are expended on "unproductive" types of consumption, with alcohol use ranking highly (Luginaah, 2008, Luginaah and Dakubo, 2003). Taken together, it is possible that some migrant women experiencing food insecurity are looking for social connections as distractions from their food-related challenges. It is also possible that migrant women with very limited resources may deplete them during these social interactions, leaving them with little resources for other occasions. Some migrant women may choose not to share

their difficult circumstances with their social networks and avoid seeking help from them due to the shame associated with food insecurity.

Limitations and Directions for Future Research

Building on the findings of our study, we next identify some aspects that require the attention of policymakers. Given the persistently high levels of food insecurity among migrant women in rural destination areas, it is necessary to prioritize this group by addressing the specific and contextual factors that predispose some migrant women to higher levels of food insecurity. Our first recommendation is tied to our key finding that length of residence and capital (social, economic, cultural) may play a role in alleviating food insecurity among migrant women. It is therefore crucial to implement interventions that enable migrant women to develop their social, economic and cultural capital more quickly in receiving societies. This could include providing highly subsidized farming resources to migrant women and ensuring that these resources are easily accessible to them. Group activities such as community durbars and other socialization events could be held regularly to bring together people living in rural migrant communities to discuss issues relevant to them. This could ensure that migrant women can build their networks and capital more quickly in their destination areas.

Our second recommendation is related to our important finding that the presence of social networks in destination areas per se may not necessarily cushion migrant women against food insecurity. Sociocultural factors, especially stigma around food insecurity, often restrain at least some women from disclosing their individual and household food insecurity and certain forms of social interaction may worsen these circumstances. Sensitization campaigns that address social stigma around food insecurity and the importance of careful spending during social interactions could help in addressing these challenges. Such initiatives may reduce the personal stressors of revealing food insecurity and build social assistance for food-insecure migrant women.

Our third recommendation is based on our finding that women with more autonomy, those who identify as farmers and those who reside in female-headed households have better food security experiences than their counterparts with less autonomy, who do not identify as farmers and reside in male-headed households. Interventions are needed that address the prevailing sociocultural barriers to full participation of women in household decisions and strengthen their roles in household livelihood and food decision making. This could involve sensitizing both women and men migrants to the benefits of collective and/or gender-balanced decisions around food. It is important to recognize that the key finding that women are "better food and household managers" is not based on intrinsic attributes of women. Instead, it is embedded in the cultural norms and gendered socialization of women and men in the Upper West Region. Rather than essentialize women's ability to promote food security, it is critical to address the root causes of these gendered outcomes around food. Therefore, socializing male and female migrants to care about their household's well-being and manage resources well would lead to beneficial outcomes in the long term in terms of household food security and well-being.

While contributing to a better understanding of the determinants of food (in)security in rural-rural migration contexts in Ghana, this study is not without limitations. The cross-sectional nature of our survey design means that our findings are limited to only statistical associations and limit our ability to establish causation. Our findings must therefore be interpreted with caution. Furthermore, our data stand at risk of recall bias as migrant women were asked to recount their experiences in the destination area over a period of months/years. Moreover, quantitative surveys, including our own, are limited in their ability to capture the intricacies of decision-making, resource allocation and access within the household. It is possible that our study may have missed some of the crucial gendered negotiation processes that underlie the food (in)security outcomes for migrant women. Given these shortcomings, it would be beneficial for future studies on food security to use a mixed-methods approach to examine the gendered and intra-household dynamics around food resources and the ways these shape the experiences of migrant women in accessing and using food. It would also be useful to interview both women and men in the migrant household in future studies to better understand the similarities and differences in their experiences with regard to food security.

References

1. Abdul-Korah, G. (2011). ""Now if You have only Sons You are Dead": Migration, Gender, and Family Economy in Twentieth Century Northwestern Ghana." *Journal of Asian and African Studies* 46(4): 390–403.
2. Afifi, T., Milan, A., Etzold, B., Schraven, B., Rademacher-Schulz, C., Sakdapolrak, P., Reif, A., van der Geest, K. and Warner, K. (2016). "Human Mobility in Response to Rainfall Variability: Opportunities for Migration as a Successful Adaptation Strategy in Eight Case Studies." *Migration and Development* 5(2): 254–274.
3. Antwi-Agyei, P. and Nyantakyi-Frimpong, H. (2021). "Evidence of Climate Change Coping and Adaptation Practices by Smallholder Farmers in Northern Ghana." *Sustainability* 13(3): 1308, https://doi.org/10.3390/su13031308
4. Apusigah, A. (2008). "The Politics of Household Production: Household Provisioning and Production." *Feminist Africa* 12: 51–68.
5. Atuoye, K. N., Antabe, R., Sano, Y., Luginaah, I. and Bayne, J. (2019). "Household Income, Diversification and Food Insecurity in the Upper West Region of Ghana." *Social Indicators Research* 144(2), 899–920.
6. Atuoye, K. and Luginaah, I. (2017). "Food as a Social Determinant of Mental Health among Household Heads in the Upper West Region of Ghana." *Social Science & Medicine* 180: 170–180.

7. Baada, J. (2021). "Experiences of Sociocultural Reproduction among Migrant Women in the Brong-Ahafo Region of Ghana" In J. Cohen and I. Sirkeci (eds.), *Handbook of Culture and Migration* (Cheltenham: Edward Elgar), pp. 412–424.
8. Belvedere, L., Davis, S., Gray, B. and Crookston, B. (2021). "Improvements to Female Autonomy and Household Decision-Making Power from an Intervention Targeting Improved Food Security: A Gender-Based Analysis of the Rajasthan Nutrition Project." *Health* 13(2): 188–203.
9. Bryceson, D. (1995). *Women Wielding the Hoe?: Lessons from Rural Africa for Feminist Theory and Development Practice* (Oxon: Routledge).
10. Coates, J., Swindale, A. and Bilinsky, P. (2007). *Household Food Insecurity Access Scale (HFIAS) for Measurement of Food Access: Indicator Guide* (Version 3). (Washington, D.C.: Food and Nutrition Technical Assistance Project).
11. Debnath, S. (2015). "The Impact of Household Structure on Female Autonomy in Developing Countries." *Journal of Development Studies* 51(5): 485-502.
12. Doss, C. (2010). "The Role of Women in Agriculture Prepared by the SOFA Team and The Role of Women in Agriculture." ESA Working Paper No. 11-2, Agricultural Development Economics Division, The Food and Agricultural Organization of the United Nations, Rome.
13. Felker-Kantor, E. and Wood, C. (2012). "Female-headed Households and Food Insecurity in Brazil." *Food Security* 4(4): 607–617.
14. Francis, E. (2002). "Gender, Migration and Multiple Livelihoods: Cases from Eastern and Southern Africa." *Journal of Development Studies* 38(5): 167–190.
15. Gemenne, F. and Blocher, J. (2017). "How can Migration Serve Adaptation to Climate Change? Challenges to Fleshing out a Policy Ideal." *The Geographical Journal* 183(4): 336–347.
16. Grabe, S., Grose, R. and Dutt, A. (2015). "Women's Land Ownership and Relationship Power." *Psychology of Women Quarterly* 39(1): 7–19.
17. Kabunga, N., Dubois, T. and Qaim, M. (2014). "Impact of Tissue Culture Banana Technology on Farm Household Income and Food Security in Kenya." *Food Policy* 45: 25–34.
18. Kansanga, M., Mkandawire, P., Kuuire, V. and Luginaah, I. (2020). "Agricultural Mechanization, Environmental Degradation, and Gendered Livelihood Implications in Northern Ghana." *Land Degradation and Development* 31(11): 1422–1440.
19. Kulkarni, S., Frongillo, E., Naved, R. and Ekström, E. (2015). "Women's Economic Autonomy, Education, and Experience of Domestic Violence are Associated with Household Food Security among Pregnant Women in MINIMat Study in Bangladesh." *The FASEB Journal* 29(S1), https://doi.org/10.1096/fasebj.29.1_supplement.898.3
20. Kuuire, V., Mkandawire, P., Luginaah, I. and Arku, G. (2016). "Abandoning Land in Search of Farms: Challenges of Subsistence Migrant Farming in Ghana." *Agriculture and Human Values* 33(2): 475–488.
21. Lawson, E., Alare, R., Salifu, A. and Thompson-Hall, M. (2019). "Dealing with Climate Change in Semi-arid Ghana: Understanding Intersectional Perceptions and Adaptation Strategies of Women Farmers." *GeoJournal* 85: 439-452.
22. Lobnibe, I. (2008). "Between Aspirations and Realities: Northern Ghanaian Migrant Women and the Dilemma of Household (Re) production in Southern Ghana." *Africa Today* 55(2): 53–74.
23. Lobnibe, I. (2010). "Of Jong Migrants and Jongsecans?: Understanding Contemporary Rural Out-Migration from Northwest Ghana." *Journal of Agaare Studies* 7: 7–10.
24. Luginaah, I. (2008). "Local Gin (akpeteshie) and HIV/AIDS in the Upper West Region of Ghana: The Need for Preventive Health Policy." *Health & Place* 14(4): 806–816.
25. Luginaah, I. and Dakubo, C. (2003). "Consumption and Impacts of Local Brewed Alcohol (akpeteshie) in the Upper West Region of Ghana: A Public Health Tragedy." *Social Science & Medicine* 57(9): 1747–1760.
26. Maxwell, D., Vaitla, B. and Coates, J. (2014). "How do Indicators of Household Food Insecurity Measure Up? An Empirical Comparison from Ethiopia." *Food Policy* 47: 107–116.
27. Munoz Boudet, A. M., Petesch, P., Turk, C., and Thumala, A. (2012). *On Norms and Agency: Conversations about Gender Equality with Women and Men in 20 Countries* (Washington, DC: World Bank).
28. Nakazi, F., Njuki, J., Ugen, M., Aseete, P., Katungi, E., Birachi, E., Kabanyoro, R., Mugagga, J. and Nanyonjo, G. (2017). "Is Bean Really a Women's Crop? Men and Women's Participation in Bean Production in Uganda." *Agriculture and Food Security* 6(1): 1–11.
29. Rademacher-Schulz, C., Schraven, B. and Mahama, E. (2014). "Time Matters: Shifting Seasonal Migration in Northern Ghana in Response to Rainfall Variability and Food Insecurity." *Climate and Development* 6(1): 46–52.
30. Ragetlie, R., Hounkpatin, W. and Luginaah, I. (2021). "Community Perceptions of Gendered Alcohol Misuse in a Food Insecure Context: The Case of Northwestern Benin." *Social Science and Medicine* 280, 114016.
31. Swindale, A. and Bilinsky, P. (2006). "Development of a Universally Applicable Household Food Insecurity Measurement Tool: Process, Current Status, and Outstanding Issues." *Journal of Nutrition* 136(5): 1449S-1452S.
32. Tsige, M. (2019). "Who Benefits from Production Outcomes? Gendered Production Relations among Climate-Smart Agriculture Technology Users in Rural Ethiopia." *Rural Sociology* 84(4): 799–825.
33. van der Geest, K. (2010). "Local Perceptions Of Migration From North-West Ghana." *Africa* 80(4): 595–619.