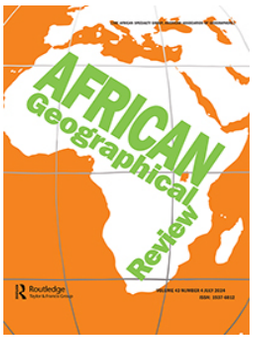

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Female farmers' struggles and responses to COVID-19 in Ghana

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ABSTRACT

The COVID-19 lockdown measures exacerbated the struggles of societies with existing inequalities. Given that women are generally the most vulnerable in times of pandemics and associated economic downturns, the study seeks to understand the struggles that female farmers experienced during the COVID-19 crisis and their survival responses and livelihood enhancement. To do this, we organized six women's focus group discussions and interviewed 145 women farmers in communities within Builsa South and Ada (in Ghana) where farming is one of the major occupations for women. The findings reveal that the pandemic severely disrupted women's access to farm inputs, markets, and farming activities amidst the absence of COVID-19 relief funds. Consequently, female farmers had to adopt multiple alternative livelihood strategies to meet their basic needs. But, the nature of the adaptation strategy adopted depended on the intersections of gender, household characteristics and remittance flows. Female farmers from migrant households with larger household sizes temporarily migrated as an alternative livelihood strategy compared to those from non-migrant households and with smaller family sizes. This distributional consequence of COVID-19 is important for government agencies to carefully consider when forming future response policies to pandemics in general and the rural agricultural sector specifically since it has implications for food security.

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Adaptation; COVID-19; female farmers; Ghana; Gender and intersectionality

Introduction

> Gender inequalities exacerbate outbreaks, and responses that do not incorporate gender analysis exacerbate inequalities. (Smith, 2020)

Soon after the World Health Organisation (WHO) office in China discovered the COVID virus in Wuhan, Hubei Province and was declared a pandemic, it became apparent that it would have an enormous impact on many societies globally, particularly those in Africa. Africa's first case of COVID-19 was recorded in Egypt on 14th February 2020, followed by Nigeria on 27th February 2020 and by the beginning of March the virus began to spread all over the continent, including South Africa, Ghana, and the rest of the world (Anyanwu & Salami, 2021). There is no worldwide known cure for the symptoms of COVID-19 which includes mild to moderate respiratory challenges among infected persons. But to minimize the risk of spreading the virus, handwashing, social distancing, lockdowns, travel bans, working from home and wearing face masks became globally acceptable practices until vaccines became available later. These measures had an enormous impact on the economies of many societies.

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Roussi (2020) observed in Kenya that the disruption in the transportation sector due to COVID-19 safety protocols for truckers created a situation where food supply was delayed for many days. This not only resulted in food insecurity but also threatened the livelihoods of truck workers. Similarly in Nigeria, Amare et al. (2021) point out significant food insecurity due to COVID-19 lockdowns and a reduction in labor market participation. Nearly two-thirds of the COVID-19 impact affected the services sector in many countries (Aduhene & Osei-Assibey, 2021; Anyanwu & Salami, 2021) due to lockdowns and limited interactions. In Ghana for instance, Aduhene and Osei-Assibey (2021) reveal that the tourism industry alone lost about 171 million dollars within three months of the lockdown and closure of tourism and hospitality centers. Since female-dominated services such as retail, hospitality, catering and tourism were heavily affected by COVID-19 and its related lockdowns. It is observed that women, especially mothers, became particularly vulnerable during the pandemic as they lost their jobs in greater proportions than men (Alon et al., 2020). It is therefore not surprising that Smith (2020) called for a gendered analysis of the impact of the pandemic and associated policy response. Critically, the agriculture sector which is already adversely affected by the impacts of climate change (Fahad, Su, et al., 2023) may suffer further from the effects of the pandemic. Thus, the call for more research into the effects of the pandemic is apt as climate variability and change means societies continue to suffer major catastrophes.

Heeding to this call, a fast-growing body of literature has looked at how COVID-19 disproportionately affected women compared to men in Europe (Alon et al., 2020; DiDaniele et al., 2020; Miller et al., 2020), Asia (Azeez EP et al., 2021; Mustafa et al., 2021) and Africa (Mutambara et al., 2021; Rafaeli & Hutchinson, 2020). Whereas some of these studies found evidence of the negative impact of COVID-19 on pregnant and lactating women (DiDaniele et al., 2020; Miller et al., 2020), others sought to establish how women experienced the greater burden of unpaid care demands at home as a result of taking care of family members who were infected with COVID-19 and taking care of and tutoring children due to school closures (Alon et al., 2020; Smith, 2020). Further, COVID-19 limited women's ability to take full-time paid work to support themselves and their families, especially for those who have assumed family headship positions (Wrigley-Asante, 2011). Increases in the number of reported gender-based violence were also recorded in some jurisdictions (Mutambara et al., 2021). Overall, while there is an extensive body of literature on COVID-19 and its impacts on society, a majority of those studies have focused on urban areas.

This paper fills the gap in knowledge as it focuses on how the pandemic disrupted the activities and work of female farmers in Ghana's rural agricultural sector. Unlike previous studies that have largely focused on the socio-economic impact of COVID-19 on Ghana's formal and informal labor market and urban areas (Aduehene and Osei-Assibey, 2021; Asante & Mills, 2020; Martey et al., 2022; Owusu et al., 2023; Schotte et al., 2023), this study provides insights into the struggles of female farmers during the pandemic and strategies adopted to overcome the socio-economic impacts in rural communities. The core aim of the study is: (1) to examine the struggles of women farmers during the COVID-19 pandemic in Ada and Builsa South districts in Ghana; (2) to identify their coping strategies; and (3) to understand how gender intersects with women farmer's multiple characteristics to produce differences in their adaptation strategies. The succeeding section discusses gender and intersectionality, the study context and method, and the findings are then presented with their policy implications.

Study context and method

The data used in this study was collected from farming communities in two districts, namely Ada in the Greater Accra Region (within the Coastal Ecological Zone) and Builsa South in the Upper East region (within Guinea Savannah Ecological Zone) of Ghana. Semi-structured questionnaire interviews and focus group discussions (FGDs) were the two main data collection methods used after preliminary field visits and community engagements. We conducted six FGDs and collected interview data in two phases. The first phase started from September to October 2022 while the second

Table 1. Demographic characteristics of respondents.

	District			
Respondents' Data	Builsa South	Ada East	Ada West	Total
Age				
15–35	17 (33.3%)	10 (20.4%)	8 (17.8%)	35 (24.1%)
36–60	28 (54.9%)	28 (57.1%)	31 (68.9%)	87(60%)
61–80	6 (11.8%)	11 (22.4%)	6 (13.3%)	23 (15.9%)
Total	51 (100%)	49 (100%)	45 (100%)	145 (100%)
Marital Status				
Single	0 (0%)	2 (4.1%)	6 (13.3%)	8 (5.5%)
Married	35 (68.6%)	33 (67.3%)	28 (62.2%)	96 (66.2%)
Divorced	0 (0.0%)	6 (12.2%)	6 (13.3%)	12 (8.3%)
Widowed	16 (31.4%)	8 (16.3%)	5 (11.1%)	29 (20%)
Total	51 (100%)	49 (100%)	45 (100%)	145 (100%)
Ownership of land				
Landowner/permanent user	45 (88.2%)	15 (30.7%)	17 (37.7%)	77 (53.1%)
Landless women	0 (0.0%)	6 (12.2%)	3 (6.7%)	9 (6.2%)
Rented land	6 (11.8%)	28 (57.1%)	25 (55.6%)	59 (40.7%)
Total	51 (100%)	49 (100%)	45 (100%)	145 (100%)

Source: Authors' Fieldwork.

was conducted in February 2023. All the interactions were in local languages depending on which one the informant was more familiar with and could best express herself. In all, we interacted with 145 female farmers until data saturation was reached, which is when additional interviews no longer revealed any new information (see Table 1 for participants' background details).

Some of the research participants were chosen on purpose and others were recruited through snowball sampling, a process where referrals are made by the informant within a circle of acquaintances (Atkinson & Flint, 2001). While developing and gaining the informant's trust through the chain of referrals, the snowballing technique not only enabled us to gain access to information that otherwise would be hidden but also, to compare and crosscheck the responses of the informants in order to improve the validity of the data that will be produced (Atkinson & Flint, 2001). The data was analyzed thematically using QDA Miner lite and the struggles of the women and their coping strategies are presented in the subsequent sections.

Gender and intersectionality perspectives

Kimberle Crenshaw's (1989) seminal work on intersectionality offers a relevant theoretical framework for studying the gendered impact of COVID-19. The concept represents a significant shift from the discursive construction of gender to examining how socially constructed categories (such as race, ethnicity, class, etc) of difference intersect to create unique experiences (Anderson et al., 1992, cited in Valentine, 2007). It enables a deconstruction of power relations and social structures of domination (e.g., patriarchy, racism, capitalism). Intersectional theorists argue that it is impossible to fully comprehend gender inequalities without a full comprehension of other social identities and the differences that exist within genders. They argue that a comprehensive understanding of gender disparities must consider a broader spectrum of social factors and individual variations within gender groups (Browne & Misra, 2003; Knapp, 2005; Shields, 2008; Valentine, 2007). Therefore, an intersectional lens is useful for better understanding how different lines of identities produce multiple forms of inequalities and unique experiences (Crenshaw, 1989). This has challenged research over the years about the use of women and gender 'as unitary and homogenous categories reflecting the common essence of all women' (Valentine, 2007, p. 12). Their problems, interests and desires are mediated by varying material circumstances which shape specific experiences of public health outcomes. Using this lens, for example, certain studies have indicated that the pandemic had a particularly strong impact on women holding jobs deemed essential (García-Pazo et al., 2022).

However, the nature of experience associated with intersecting identities like race, ethnicity, and gender is not also static. Rather they are dynamic across space and time and in changing configurations with mutually constituted relationships that produce and maintain unequal outcomes (Shields, 2008). Within the context of power asymmetry, Patricia Hill Collins conceptualizes these various intersections of social inequalities as the 'matrix of domination' (Collins, 1996 cited in Browne & Misra, 2003, p. 489). It is widely agreed that within this matrix, an individual can simultaneously experience disadvantages and privileges through the combined status of gender, class, ethnicity, sexuality, and age, among other characteristics (Browne & Misra, 2003). For instance, one may possess powerful intersectional characteristics only when a greater combination of the individual's multiple identities yields great advantages and privileges over health-related challenges and outcomes (Badwi et al., 2017; McCall, 2005). Similarly, an individual may occupy low intersectional characteristics when greater aspects of the individual's multiple identities (e.g., Black uneducated African rural female farmer) pose greater challenges to pandemic-related outcomes.

As highlighted above, intersectionality as an analytical concept also includes the idea of 'axes of inequalities' (Knapp, 2005, p. 262). Here, intersectional theorists assume that the dominant groups with favorable identities control productive resources as well as major social institutions which gives them the power to, for instance, offer certain kinds of and in this case, Covid-related reliefs and related assistance to other social groups (Browne & Misra, 2003; Shields, 2008). Hence, given the assumption that the unequal outcomes during the pandemic were not solely caused by biological factors, many scholars have suggested that researchers examine socially constructed categories in relation to each other as this approach may provide a better understanding of how people's multiple characteristics influence privileges and opportunities in society (Knapp, 2005, p. 262; McCall, 2005).

In this study, we use the intersectionality approach to enrich our knowledge of how different categories of women experienced and adapted to the pandemic since women are not a homogenous group (Browne & Misra, 2003; Shields, 2008). We use the theory to find out what intersectional axes affected women's access to agricultural inputs and livelihoods, market and state funds. Who was best positioned to respond to and adapt to the economic downturn during the pandemic? By so doing, we use intersectionality to illuminate 'hidden social groups' and what factors shaped their vulnerabilities.

Female farmers' experiences of the COVID-19 pandemic in Ghana

Ghana has seen two waves of the pandemic since the first two imported cases were confirmed on 12th March 2020. The first wave occurred between June and August 2020 while the second wave occurred between January and February 2021 due to institutional pitfalls in implementing the protocols (Bandoh et al., 2022). The Ghana government adopted the globally accepted guidelines in addition to the closure of schools and businesses and imposed restrictions on public gatherings, humans and commodity transportation (Asante & Mills, 2020; Schotte et al., 2023). As captured in the emerging themes below, these containment measures in cities visibly exacerbated the struggles of female farmers in rural communities.

Locked out of inputs and livelihoods

Many of the participants had entered farming because it is one of the major livelihood options available to them based on livelihood assets of land and their own labor. This enables female farmers to become less economically dependent on their husbands and family relations. However, the outbreak of COVID-19 and the subsequent unprecedented lockdown impacted negatively on this livelihood option available for women cultivators as they could not access agricultural inputs (e.g., seed, fertilizer, equipment, etc.) from urban areas nor find laborers to assist them in farm work. As a

result, input prices shot up whereas labor shortage led to high wage rates. Mechanical services and other equipment which are supplied from urban areas were also not available on hire due to restricted mobility to cities during the COVID-19 lockdown period. This was a common experience for the participants as they expressed their frustrations in the interviews. One woman in Builsa South noted that: '*when the lockdown was declared farming was adversely affected because we didn't have access to the inputs we needed, and some farming services like tractor services were nearly impossible to access, causing a delay in the farming season*.' Another woman in Ada also recounted the significant losses they made due to limited farm inputs when she said: '*I could not go to the farm. All my crops got spoilt* (. . .) *due to the restrictions on movement, we could no longer hire labour for our farm work.*'

As illustrated by these respondents, most of the research participants experienced some form of loss in their livelihoods during the lockdown period. This was particularly difficult for the women given their average household size and the fact that structural transformation over time in Ghana has made some of them assume household gender roles traditionally assigned to men (Wrigley-Asante, 2011). Thus, for most of the women, they are responsible for their family's food, clothing, children's education, utilities, and health needs. But for some, they do not only feed or clothe their families but also contribute significantly to household budgets which means that any disruption in their livelihood affects the households. This sentiment was common among participants in Builsa South where household size was much larger than the districts of Ada. Even though lockdown measures were more intensive in Ada than in Builsa South, the fear of the pandemic forced some to remain at home while their crops rotted on the fields. A critical social ax (Knapp, 2005) that influenced the extent to which the pandemic affected households is that non-migrant households had little or no external support, particularly in Ada (also see Table 2). They had to depend on their husbands as tradition demands or seek alternative livelihoods to escape poverty, which could result in the loss of family land (Xu et al., 2022). Among participants in Builsa South, there were also reports that some had to borrow money from friends and relatives to enable them to meet daily living expenses. The latter experience compounded participants' worry over their ability to repay debts accumulated over the period as they struggled to adapt to the impact of the pandemic. The sudden changes in routine, from being engaged in farming activities to loss of livelihood exacerbated the negative impact they experienced psychologically and socially, as some participants recalled. Thus, household characteristics, status of women in the household and associated gender roles are important social axes that heavily exacerbated the struggles of women in agriculture in the wake of the loss of livelihoods.

Disrupted access to market, inflation, and production challenges

The marketing of farm produce was a challenge due to lockdown measures. The findings reveal that women who were also engaged in the marketing of farm produce suffered more adverse outcomes during the pandemic. An informant in Ada lamented:

Table 2. Farm women's migration and remittance information.

Household characteristics	Builsa South	Ada East	Ada West	Total
Migrant household	47 (92.2%)	23 (46.9%)	11 (24.4%)	81 (55.9%)
Non-migrant household	4 (7.8%)	26 (53.1%)	34 (75.6%)	64 (44.1%)
Total	51 (100%)	49 (100%)	45 (100%)	145 (100%)
Remittance receipt				
Yes	29 (56.9%)	20 (40.8%)	3 (6.7%)	52 (35.9%)
No	22 (43.1%)	29 (59.2%)	42 (93.3%)	93 (64.1%)
Total	51 (100%)	49 (100%)	45 (100%)	145 (100%)
Remittance flows				
Monthly	2 (6.9%)	4 (20%)	0 (0.0%)	6 (%)
Randomly	27 (93.1%)	16 (80%)	3 (%)	46 (%)
Total	29 (100%)	20 (100%)	3 (100%)	52 (100%)

Source: Authors' Fieldwork.

> It affected me so much because I traded at the market as well. So, with the lockdown, I could not take my farm products to the market to sell. All my harvests went to waste. I could not also go to the farm because of the lockdown. All my crops got spoilt.

Although Ada is much closer to major markets in the cities of Accra and Tema than Builsa South, the farm women could not access the market due to lockdown measures. Traders who used to travel up North from Accra and Kumasi could also no longer embark on such journeys because of the restrictions while others had to reduce the prices of their produce due to the general disruption of food systems. A farmer in Ada narrated:

> We made some losses because the buyers could not come to buy our crops. It was difficult at that time; the buyers could not come here, and we could not also go there. People were not buying our produce. Buyers could not come to buy due to the lockdown. We made losses because our produce was bought at cheap prices, and we could not afford any farm input . . .

Only a few informants said they were able to smuggle some of their produce out and sell within the community during the lockdown whereas the remaining either sold their produce before or after the lockdown ban was lifted. Even so, they had to sell at low prices in order to make ends meet while their suppliers sold the produce at higher prices. One participant in Builsa South also complained that: '*traders couldn't access the markets due to the restrictions on movement and public spaces and we had to sell at low prices for lack of buyers*.' The women could not hold onto their produce to get higher prices since they needed money to repay debts and take care of their families. Their desire for immediate cash thus increased during the lockdown and further compelled participants to sell their farm produce at whatever price they get from clients. Meanwhile, prices of local and imported foodstuffs on the market had shot up due to the announcement of lockdown measures and subsequent limited supply of agricultural produce. Asante and Mills (2020) have reported in their research how traders and suppliers deliberately increased food prices to take advantage of the panic buying that the country experienced. These huge profits went to aggregators and not farmers nor wives of farmers who sell in local markets or at farm gates where prices were ridiculously low.

The increased food and non-food prices vis-à-vis the women's socio-economic circumstances heightened their anxieties over their ability to withstand the impact of the pandemic. As stated by a farmer in Builsa South, even '*the price of Maggi* [a popular food spice in Ghana] *doubled. Before COVID, two cubes of Maggi sold at Ghc0.50. But now, only one sells at Ghc0.50 a cube*.' The disruption of public transport and access to the market due to concerns over safety and COVID requirements, therefore, contributed immensely to the struggles participants faced as the cost of food and farm inputs such as seeds, fertilizers and weedicides also shot up. At the global level, the disruption in maritime movement was a serious blow to developing countries like Ghana whose dependence on global trade for agro-inputs and some food needs impacted on agriculture and food security. The nature of female farmer's struggle during the pandemic is revealed when a key informant in Builsa criticized how they sold two bags of maize just to purchase one bag of fertilizer when she stated: '*fertilizers became so expensive, and one has to sell two bags of maize to afford a bag of fertilizer; price of produce depreciated while that of inputs appreciated*' (Farmer, Builsa). Indeed, following these experiences, most of the female farmers we interacted with recalled moments when they felt 'hopeless' because they could not fulfil their expected role as mothers, wives and/or daughters.

A woman in Builsa particularly expressed her frustration when she highlighted that: '*our petty trading businesses were affected because markets were closed, and we couldn't sell. We also couldn't access the market to buy foodstuffs and/or ingredients for our homes*.' As some studies have indicated already, this tends to increase domestic violence at home since all genders experience hardship during COVID-19 and hence overdependence of women on their husbands, as tradition demands, increased the number of conflicts in some of the participants' households (see Azeez Ep et al., 2021; Wrigley-Asante, 2011). The different aspects of this

theme illustrate how the nature of the struggle during the COVID pandemic was based not only on market forces, but also on whether the individual is a farmer, a trader of farm produce, or involved in both farming and trading.

Insufficient state support during COVID-19

During the period of severe economic disruption, the government of Ghana had certain programmes rolled out to support the Ghanaian population, particularly the vulnerable. For instance, there was the Coronavirus Alleviation Programme (CAP) that provided about 470,000 individuals and homes with foodstuffs and hot meals (Schotte et al., 2023). In addition to this, there was a 50% payment of electricity bill, full absorption of electricity bills below 50 kilowatt hours for a month as well as the full payment of water bills from April to June. Unfortunately, there was no targeted financial support from the state in the form of direct earning support to the underprivileged sections of the Ghanaian society, including rural women whom the pandemic had rendered impoverished at the time (Bandoh et al., 2022; Schotte et al., 2023). The work of Fahad, Hossain, et al. (2023) already shows how lack of capital and access to credit facilities make farmers more vulnerable to shocks and stressors such as the pandemic. Hence, given their inability to earn enough from cultivation and the severity of economic hardships associated with COVID-19, the participants expected that central government relief packages would come to their aid with some form of earning support. The feeling of insufficient state support is expressed in the following excerpts from the focus group discussion at Builsa:

> Farmer 1: We could no longer hire labour for our farm work because our earnings are small. We want the government to subsidise our farm inputs such as fertiliser, pesticides, and weedicides. Farmer 2: We would appreciate it if support could come in to make tractors and tractor services more available and easily accessible. Farmer 3: If the fees for the tractor services could be revised downwards, we would be grateful. Farmer 4: We would also appreciate if the same could be done for the prices of fertilizers. (Focus group discussion, Builsa)

For farm women who depended largely on farm earnings to cater for their household (particularly the single parents), this was an exceptionally difficult moment as the period witnessed a rise in return migration leading to an increased number of families available at home due to lockdown measures. One participant in Ada who doubled as a family head recalled her experience:

> There were times it rained which was the right period to farm. But sometimes when those periods approach you have no money because the disease [COVID] affected us. Due to the low yields, profits made were small to cater for the family expenses. So, when the rain starts, you must have money on you to farm. And by the time you get money to farm, then the rains stop. So, this is what we suffered.

In this context, the state could have provided financial support to alleviate poverty among farmers as recommended by some researchers (Su et al., 2023). However, apart from the National Board for Small Scale Industries which disbursed soft loans to microscale, small-and medium-scale businesses, state responses were both inadequate and tardy (see also the report of Schotte et al., 2023). This illustrates that being a Ghanaian female farmer without state financial support could lead to poorer prospects during pandemics, and not necessarily because vulnerabilities are heightened by gender. Consequently, the female farmers in this study had to adopt alternative strategies to enable them to survive the hardship. These strategies are explored further in the section that follows.

Female farmers' strategies for adaptation, considering gender and intersectionality

During the pandemic, women faced more challenges, especially those from larger households, those who sell farm produce in addition to farming, and those from non-migrant households with little or no external financial support. As such, the adaptation strategies adopted also depended on the intersections of gender, household characteristics, and remittance flows. Some had to diversify their crops, explore alternative sources of income, and consider migration, while others had to come up with other various strategies as part of their gender roles.

Crop diversification and alternative livelihoods

In Ada West and East Districts, staples like maize and cassava have now been replaced by the production of fruits and vegetables while sorghum leaves used for cooking 'waakye' (rice and beans) is grown by all farmers. We also recorded instances where participants had to engage in mono-cropping instead of the pre-COVID-19 mixed-cropping farming system to increase yields for special crops such as watermelon, tomatoes and chilies. Besides measures instituted to reduce the cost of cultivation, some of the female farmers had to lease out their lands or leave them to fallow either because they lacked the needed capital to invest in their farms or had exhausted all their borrowing options, as noted also in previous studies (Kulkarni et al., 2022; Xu et al., 2022). This is because, given their inability to raise enough money from farming activities, loss of livelihood and resulting indebtedness due to the pandemic, some of the women had borrowed either from (agricultural) credit co-operatives, microfinance institutions or self-help groups to invest in their farm or other businesses:

> . . . we have Vision Fund that supports the group [Women's Association] with small loan facilities which are paid over six months. Our last loan facility was Ghc10,005 which was shared among the 30 members. We used it to fund our small businesses and trades. (Focus group discussion, Builsa)

Other studies have also shown how the Women's Association in the Southern part of India provides significant support in terms of finance and productivity to members before and after COVID-19 (Agarwal, 2018, 2021). In the districts of Ada East and West, similar experience is recorded among some participants where some had to borrow from microfinance institutions to engage in alternative livelihoods such as the rearing of animals and/or petty trading:

> We used it [loan] to fund our small businesses and trades. Some of us sell 'Oblayo' [popular breakfast prepared with corn], others waakye [Ghanaian dish prepared with rice and beans] and broom. We sell some of them when we need money and eat some. Sometimes, we go to other markets and buy sugarcane to sell in this community. Also, we sell animals to cater for the school needs of our children.

Women's concern about the survival of their households and the revival of their farms following the impact of the pandemic made them work multiple alternative jobs. Sometimes, either as part-time laborers on other farms or as fishmongers. Intersectionality in this case helps to reveal how agency across gender intersect with institutional practices and structural constraints (García-Pazo et al., 2022). For instance, even though female farmers sought financial support from institutions to pursue different alternative occupations, some of these roles were still constrained by prevailing gender norms and societal expectations of being a woman.

Dependence on remittances

Studies in Ghana and elsewhere have shown over time how social networks, migration and remittances play a vital role in poverty alleviation and mitigation (Awumbila & Ardayfio-Schandorf, 2008; Hu et al., 2022; Quartey, 2006; Su et al., 2023). Certainly, the extent of the impact depends on the number of migrants within the participants' households as not all the participants originated from migrant households and/or received remittances. Table 2 reveals that among the 47 female farmers from migrant households in Builsa South, more than half of them received remittances (29), with the majority (27 out of 29) receiving the support intermittently partly due to the reduced earnings associated with the pandemic's economic distress.

Likewise, some female farmers in both Ada East and West also received financial support from remittances (see Table 3). Thus, of the 94 participants, 23 received remittances. Even so, the majority of them (19) receive the money occasionally due to the global economic impacts of the pandemic. For some of the participants, this was a difficult situation given the size of the farm women's households and the burden of managing such households with limited resources. In such circumstances, the research findings reveal that female farmers depended on remittances from their

Table 3. Cross-tabulation of participants' household size, remittance flow and migration.

District	Household size	Migrant Household	Receive remittance	Temporary migrate
Ada East	9	23 (46.9%)	20 (40.8%)	10 (20.4%)
Ada West	6	11 (24.4%)	3 (6.7%)	6 (13.3%)
Builsa South	13	47 (92.2%)	29 (59.9%)	28 (54%)

Source: Authors' Fieldwork.

migrant relatives to reduce vulnerabilities at the intersection of gender and household characteristics. Some of the female farmers in Ada also reported how they relied on their migrant relatives for survival and support when there were no earnings:

> If I do not have money to buy some farm inputs, I ask them [migrant relative], and they give them to me. But I pay them back so that the next time I need such help, they will help me. There is nothing like that now.

One divorcee with three children explained how her migrant relatives have been helpful when she said '*I have relatives in other areas I rely on for help. I use some of the money to buy seeds, fertiliser and pay labourers*.' Others received financial support for farming activities from their children who are not necessarily migrants as some informants highlighted in a focus group discussion at Ada:

> Farmer 1: Yes, they remit money for farming. Some send money to their relatives to support their farming and others also send money to be used to farm for them. Farmer 2: We receive from our children who send money to plough or buy seed sometimes. Farmer 3: My children also send me money which I use for household upkeep and to buy farm inputs.

But as demonstrated in the participants' excerpts, disruption in remittance flows due to the global economic impacts of COVID compounded the burden and distress that farm women experienced especially because of their gender role as caregivers (Padavic & Reskin, 2002). One farm woman who lived at Fumbisi (Builsa South) as a widow with four children shared her experience:

> At first, I used to get remittances from my elder son, but the remittance also ceased to come as frequently as it did before, and for some time it has stopped. We hardly get any financial support from my husband's family relations because they too have families to fend for.

Lamented by the woman, the cessation of financial support from her son brought notable stress on the household income as the remittances received assisted considerably in household and farming expenses. As explained by other women, monies received through remittances aided in the purchase of farm inputs while serving sometimes as wages for farm-assisted laborers:

> When the farming season is due, they send funds to support farming activities. They send money for us to buy some of the supplies or send the supplies directly to us, and when farming commences, they also support us by paying for the hired labour. They also send used clothing, farm inputs, and even foodstuff such as gari, plantain and palm nuts to support in difficult times. Those who benefit more are those who have grown-up children out there.

The remittances as elaborated above were not only in the form of money or farm inputs but also food stuffs and used clothing. The used clothing is often packaged in bales and transported to the migrant's household because Ghana has no legislative instrument regulating used clothing transactions (Oteng-Ababio et al., 2015). The existing trade law only forbids secondhand underwear, handkerchiefs, and mattresses because they are unhygienic but even so, the legislative instrument is hardly implemented. Hence, it is not surprising that participants relied on such support during vulnerabilities. But the magnitude and nature of the support received depended further on the gender of the migrant in their household. It was revealed during a focus group discussion in the Gbedembilisi community of Builsa South that whereas men remit for farming and household purposes, women often remit for family-related expenses:

> Farmer 1: Both remit but that of the men is more. The men send for both farming and family upkeep whereas the women usually send for family upkeep. Farmer 2: The women (my sisters) send more than the men send

> because they have their families depending on them. And it's usually sent for family upkeeping. Farmer 3: My sister usually sends for personal upkeep. Farmer 4: My sisters-in-law send for family upkeep. Farmer 5: I received from my husband, for both farming and family upkeep. Farmer 6: My sisters occasionally send for family upkeep. (Focus group discussion, Builsa)

This is interesting, as some scholars have already established that women are more responsible caregivers of their households while men care more about production work (Padavic & Reskin, 2002; Smith, 2020). Such unequal division of responsibilities often influences men and women to make choices that lead them to alternative livelihoods with substantially different conditions. As highlighted before, when remittances failed, farm women resorted to petty trading, in addition to crop diversification, to augment farming proceeds and also afford them the needed time to care for families and COVID-stricken relatives. Temporal migration is another strategy adopted as a response to the impact of the pandemic.

Temporal migration

In Ghana, rural-urban migration is common as people look for sustainable sources of livelihood. Some of the rural folks engage in short-term migrations. Temporal migration involves the relocation to another place (country, city or region) within a specified period which is not intended to be a permanent stay (Awumbila & Ardayfio-Schandorf, 2008). The study found that some of the female farmers had to temporarily migrate elsewhere to work as head porters, a job typically notable among female migrants in the marketplaces of Ghanaian cities such as Accra and Kumasi. To reiterate, we were told: '*if you're rendered unemployed, you work as a head porter to gather some funds and return home to the farm or you work as a labourer*' (Farmer, Builsa). Table 3 shows that more than half of the participants in Builsa South consider temporary migration as a key adaptation strategy compared to participants in Ada. Thus, compared to Ada, more participants in Builsa resort to temporal migration given the size of their households (13 on average) and their connection with other migrant relatives. However, the decision to temporarily migrate, as revealed in the table below, is also influenced by other social determinants such as household size, household characteristics and remittance flows.

This suggests that women from migrant households with larger household sizes are more likely to negotiate COVID-19 adverse positionalities through temporal migration, particularly when the flow of remittance is disrupted (as in the case of participants in the Builsa South district). Further implying their acclimatization to other sources of (financial) support other than crop diversification and remittance.

Discussion

This paper explored the struggles that female farmers experienced because of the COVID-19 pandemic in Ghana, using the cases of Builsa South, Ada East and West districts. The themes that emerged illustrate the widespread impact of the pandemic on women in the agricultural sector and their households. Even without the pandemic, female farmers were generally disadvantaged in terms of access to agricultural schemes, institutional credit, agricultural inputs and getting a fair remunerative price for their produce (Fahad, Hossain, et al., 2023; Kulkarni et al., 2022). However, the pandemic further exacerbated their precarious lives and preexisting struggles. In this study, we found the dominant pandemic-induced struggle is closely connected to disruption in livelihoods, access to markets and inputs. These were aggravated by insufficient financial and material support by the state, pushing some of the female farmers to occupy unfavorable intersectional positions. The pandemic has reconfigured 'axes of inequalities' (Knapp, 2005) pushed many women in the study communities into precarious living conditions.

Consequently, women with favorable intersectional positions were able to borrow either to invest in their farms or engage in multiple alternative livelihoods. However, securing loans within the context of unpredictable markets increases their vulnerability to indebtedness which can potentially weaken intersectional position further. The most cited adaptation strategies to reduce their vulnerabilities at the intersection of gender and household characteristics were cropping diversification, petty trading, reliance on remittances, and temporal migration. Martey et al. (2022) also found multiple adaptation strategies among smallholder farmers than those with larger farms because most of the smallholder farmers are resource-poor (see also Martey & Kuwornu, 2021). Apart from farm size, the authors claim that the nature of the pandemic-induced adaptation strategies is largely determined by factors such as farmer's age, land ownership and farm experience such that, even where elderly farmers are more likely to adopt multiple adaptation strategies, length of experience and land ownership dynamics (i.e., renters vs. owners) could tend to reduce the intensity of the measures adopted. In addition to these factors, our study found a relationship between household characteristics and adaptation options.

Gender was one aspect of the participants' identities that additionally influenced the choice of alternative livelihood strategies that otherwise they would not have engaged themselves in if they were men (e.g., petty trading). This is because in the Ghanaian context, petty trading in 'waakye' and 'oblayo' [popular Ghanaian foods], for instance, is largely regarded as women's occupation while men are rather regarded as appropriate genders for jobs like the rearing of animals and farm laborers. And so, in a typical Ghanaian society like Ada and Builsa, a man found doing any of these jobs is being stereotyped as 'Kojo B3sa' (meaning Kojo is a woman). Yet, the study found that some participants were motivated to enter into male-dominated spaces as well due to the impact of COVID-19 on their livelihoods and the need to survive, implying a change in perception regarding gender-appropriate jobs. Hence, by incorporating gender perspective into the analysis of COVID-19's impact on farm work, the study reveals the gendered nature of COVID-19 impacts and their consequential effects on the agricultural sector. The relevance of this concept, therefore, is the difference it makes to our knowledge of how COVID-19 and post-COVID-19 outcomes operate for female farmers in Builsa South and Ada districts in Ghana.

Another strength of this study is that it not only cast light on female farmers' experiences and/or struggles from a gender perspective. But also explores intersectionality in ways in which gender, household characteristics, and migration (as an adaptation strategy) intersect to create favorable and unfavorable positionalities for the farm women. According to a study by Hu et al. (2022), social networks can play a significant role in mitigating the adverse effects of low intersectional positionality. Therefore, in this study, while all female farmers suffered from the impact of COVID-19, it was observed from an intersectionality perspective that those from non-migrant households were in unfavorable (or low) positions since they lacked support in the form of remittances and the ability to temporarily migrate or explore opportunities in new territories. As such, there is a greater likelihood that such categories of farm women faced greater pandemic-induced challenges compared to their counterparts from migrant households receiving monthly or intermittent remittances. This implies that participants who were from migrant households were more likely to negotiate through intermittent remittance or temporal migration, depending on the nature and size of their households. The quantitative data confirms these complexities by showing how a greater number of migrant households with relatively larger family sizes accept remittances and temporal migration as an alternative adaptation option. Perhaps, one motivation for the adoption of temporal migration, as in the case of participants in Builsa South, is because it offers livelihood enhancement opportunities with trickling down effects on the production of agricultural foods and upkeep of the migrants' households through remittance.

Conclusion and implications for situated policies

The pandemic had a devastating impact on the agricultural sector in general. As such, the perception, and socio-economic effects of COVID-19 shocks on farmers are critical since rural Africa has the majority relying on farming and natural resource-based activities. Our study explored the struggles and responses to the impact of the pandemic on female farmers. Among the findings, we show that women's multiple pandemic-induced struggles and adaptation options are intricately linked to disruption in livelihoods, market access, farming inputs and remittances. Consequently, we were able to show how intersectionality can help identify marginalized social groups and disparities in adaptation. We also explored how household characteristics, the role and status of women in the household, and gender roles can worsen women's challenges in the agriculture sector. Additionally, we unraveled how women's ability to respond to pandemics is influenced by institutionalized practices and structural constraints even though some female farmers had to transition to alternative livelihoods, which have traditionally been dominated by men. This leads us to draw two main conclusions.

First, the impacts of COVID-19 on female farmers according to their characteristics reinforced intersecting drivers of inequalities, even among women. This implies that unless a gender-sensitive and/or intersectional approach is adopted by policy makers to understand such differential impacts created by the pandemic, women (particularly those with unfavorable intersectional identities) will continue to struggle in their quest to adapt to the hardship posed by the pandemic. Second, our findings reveal that the already precarious lives of female farmers were further jolted by an insufficient state financial support system for the rural and agricultural sectors. As a result, when confronted with pandemic-induced challenges, the majority of the women either borrowed to invest in businesses other than farming or entered into less costly systems of farming. This has implications for poverty and food security, and policymakers need to actively involve female farmers when forming future response policies to pandemics in the agricultural sector.

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Consent to participate

All informants participated voluntarily after giving their informed consent.

Ethics approval

Ethical approval was granted by the University of Ghana's Ethics Committee for Humanities.

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