Study of Farm Workload Faced by Wives in Migrant and Non-Migrant Households in the Savannah Agro-Ecological Zone in Ghana

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Abstract. Out-migration of husbands is considered to be a solution to poverty to the extent that it could enable households left behind achieve improvement in welfare. Owing to low application of technology in crop farming, wives in some households left behind had to contend with excessive workload. This study assessed effects of out-migration of husbands on wives left behind in terms of farm workload; hiring of labour and its implications for household wellbeing. The study adopted mixed methods research approach and employed both qualitative and quantitative data generated through household survey. Among other things, the paper indicates that wives in both migrant and non-migrant households displayed active participation in farming activities. It emerged that though there are remittances inflow, out-migration of husbands leads to excessive farm workload on wives left behind and increased their dependence on hiring of labour. The paper advocates provision of small-scale dams to boost farm output; and use of modern farming technology to help reduce the drudgery that women in farming households especially those left behind have to contend with.

Key words: Out-migration, Household, Farm workload, Poverty, Livelihood

Introduction

Migration is a livelihood strategy employed by some households for achieving improvement in overall welfare of their members (Stark & Levhari, 1982). Male out-migration has been recognised as one of the common strategies undertaken by households in northern Ghana to enhance household welfare (Codjoe, 2006; Agyei, 2012; GSS, 1995). The key motivations for migration is purely economic survival and prosperity, escape from economic insecurity and poverty, and response to perceived opportunities at the destination (de Haan, 1999). According to Awumbila and Ardyfio-Schandorf (2008), migration constitutes a common household survival strategy in Ghana. Thus, migration has become a basic survival strategy used by some individuals and households in order to cope with economic stress.

Among the Dagaabas in the Upper West Region, out-migration is considered as a household affair as the members, at least wives and husbands decide who move or stay put. In view of this, husbands who engage in out-migration have responsibility to remit for the overall wellbeing of the wives and children left behind. On the other hand, wives left behind have to work to sustain the welfare of the households during the absence of their husbands (Cheney & Lewis, 1980; Meillassoux, 1981; Izzard, 1985).

Problem Statement

The Savanna Agro-ecological Zone has been identified as one of the environmentally high risk areas in Ghana (Benneh *et al.*, 1990). This is based on the high rate of soil erosion, low soil fertility and non-availability of reliable water supply for agricultural production, which is the mainstay of the local economy. Inadequate water for the cultivation of crops is attributed to the relatively short duration of rainfall (about six months) leading to relatively low annual

rainfall. This results in relatively low agricultural productivity and household income culminating in periodic food insecurity (Songsore & Dankebe, 2001). Consequently, these contribute to relatively lower standards of living among the populace.

Among the responses of some households to address these impoverished living conditions is out-migration of husbands while their wives and children remain at the place of origin (Agyei, 2012; Rogaly, 2003). This type of migration has two main effects on households left behind: labour-loss and remittances (Mendola, 2006). To a large extent, support of migrant husbands through remittances either cash or kind would determine whether wives in the households left behind are either relieved or overburdened with farm workload owing to labour-loss effect.

Thus, this paper assessed effects of out-migration of husbands on their wives left behind in terms of farm workload relative to their counterparts in non-migrant households. The main objective was to assess changes brought by out-migration of husbands to wives in terms of type of labour used, farm workload and their implications.

Research Questions

The key question emanating from the stated research problem is whether out-migration of husbands increases the farm workload of their wives left behind? Following from this, the specific research questions included:

1) What are the consequences of out-migration of husbands on their wives left behind in terms of farm workload at the household level?
2) What farming activities are undertaken by wives in their household farms?
3) What is the extent of hiring labour for household farming activities?
4) What are the implications of increased farm workload on wives left behind?

Related Literature

There is evidence that male out-migration could lead to acute shortage of labour and higher dependency ratio in the sending-households (GSS, 1995). In some instances, households had to contend with loss of farm labour; and this is sometimes addressed by increasing the work load of those left behind. However, this finding was not specifically made about long term out-migration of husbands, which is the focus of this paper.

The shortage of male labour force in migrant households could exert an upward pressure on farm wages in the migrant-sending communities and restrict ability of poor households to hire farm labour. In view of this, out-migration of husbands could push both women and children in rural farming households into taking up excessive workload than their counterparts whose husbands have not migrated. The literature on feminization of agriculture suggests that when men migrate, women take on the farm tasks of their migrant husbands (Boserup 1970; GSS, 1995; Song, 1998; FAO, 1999; Katz, 2003, Deere, 2005; Kaspa, 2006). In addition to the use of household labour, they could become dependent on hired labour (McEvoy, 2008). This could impose huge financial burdens on wives left behind compared to their counterparts in non-migrant households. However, McEvoy (2008) finds that direct field participation of most wives in migrant households in Mexico declined.

Whereas increased household vulnerability due to out-migration of key members abounds in the literature (de Haan, 2000; Mendola, 2006; McEvoy, 2008), not many studies on this area have been conducted in Ghana. This paper on impacts of rural farming households in the migrant-sending communities is to help fill this void.

According to Quaye (2008), small-scale agriculture is mainly a labour intensive activity owing to low income which restricts their ability to adopt modern farming technology. In view of the fact that, the use of modern farm equipment like tractor is extremely low in Ghana, key labour-loss effect of out-migration of husbands on the household members left behind is

increased workload. This is ascribed to their determination to ensure household food security by increasing or maintaining farm production (at least for subsistence crops) without resorting to the use of modern farm technology. If the households in question cannot have access to modern farm machinery like tractor, hire labourers to maintain output owing to budget constraints, the workload of those left behind would rise.

On the other hand, results of some studies show that male out-migration could have positive effects on the sending-households through remittances (Mendola, 2006; McEvoy, 2008; Quarter & Yambila, 2009; Agyei, 2012). They contend that migration results in the flow of remittances, which could help households left behind to overcome budget constraints through provision of liquidity (Stark, 1991; Stark & Levhari, 1982). Thus, cash remittances could facilitate access to food from the market, accumulation of savings to be used for acquiring farm inputs including hiring of labour or investment in non-farm economic activities (Ellis, 2003).

Theoretical Framework

The study was based on theoretical framework proposed by the New Economics of Labour Migration (NELM). NELM basically considers migration as a type of risk-sharing behaviour of a household. It postulates that the household is better placed than individuals to diversify its resources such as labour in order to manage the risk that it faces (Stark & Levhari, 1982). One of the basic assumptions of NELM is that individuals and households not only act to maximize their incomes but also to minimize and spread their perceived risks.

In view of this, voluntary internal migration is a mechanism for reducing and spreading the perceived risks faced by households. In this way, remittances from migrants become an insurance against any unforeseen event likely to impact negatively on the well-being of the household left behind. NELM further contends that there is a continuing interaction between migrants and their households left behind. It is argued that some households provide support by incurring the costs during migration of their members. In return, migrants have contractual obligation to contribute to the well-being of those left behind through provision of cash or in kind which serves as insurance or buffer against vulnerable situations.

It further remonstrates that there exists a mutual altruism which reinforces an implicit contract between migrants and those left behind. Thus, migrants and their households left behind are linked through processes of co–insurance (Lucas & Stark, 1985). Since the current study focuses on effects of out-migration on households left behind, this framework is regarded as an appropriate tool for investigation.

Research Methods

The paper is based on a study conducted among migrant and non-migrant households in the Kaleo-Nadowli District in the Upper West Region of Ghana. The study used both qualitative and quantitative research approaches (mixed methods) since it is demonstrably clear that neither of them exclusively provides accurate picture (Castro *et al.*, 2010; Creswell *et al.*, 2003; Knodel, 1997). The main methods for studies on the outcomes of migration are concurrent and historical control designs (Awumbila, *et al.*, 2014). In concurrent control design, the research subjects are compared with another group with similar background characteristics but who have not been subjected to treatment. On the other hand, the historical control design requires more than a one-time data collection (longitudinal studies) to facilitate comparison of the situation of the same group before and after treatment has been administered. In view of the fact that, it was a one-time data collection, historical control design was not considered to be appropriate. So concurrent control design was adopted; the situation of wives in migrant-sending households was compared to their counterparts in non-migrant households in the selected communities.

The primary data were collected through a field survey of 300 households (categorised as migrant and non-migrant) using semi-structured instrument. In addition, in-depth interviews (IDIs) with key informants, opinion leaders, were conducted. Similarly, focus group discussions (FGDs) with the wives of household heads were conducted. Both IDIs and FGDs were recorded electronically and later transcribed before typing the content.

A three-stage systematic sampling technique was employed to select the households. In each community, migrant and non-migrant households formed 50 percent of the sample. The households were classified on the basis of the migratory status of the head (husband). Thus, migrant household refers to one in which the husband was residing in another administrative district for at least two years. The household questionnaires were answered by the wives of the heads of the selected households. The selection of household as focus of the study was based on its relevance as key social and economic unit; and ability to provide valuable insights into living conditions (Corbett, 1988).

The quantitative data was analysed with the help of Statistical Package for Social Sciences (SPSS Version 16). Both descriptive and inferential statistics were employed in the analysis of the quantitative data. The transcriptions were thoroughly edited and coded; and content-analysis was carried out.

Findings

Background Characteristics

The 300 respondents were aged between 18 and 76 years with an average of 41 years. In terms of average age, the wives in migrant and non-migrant households were 39.4 and 42.5 years respectively. Concerning educational attainment, majority of the wives in the selected households had no education (77.0% and 72.0% in migrant and non-migrant households respectively). It was found that 20.0 percent of the wives of out-migrants indicated that they had formal education compared with just three percent who indicated that they had informal education. In the case of wives in non-migrant households, it was found that 21.0 percent had formal education relative to seven percent who had informal education.

With respect to occupation, majority of the respondents were engaged in farming as their primary occupation (migrant – 88.0% and non-migrant – 90.0%). In addition, they undertook trading, agro-processing (shea butter), brewing of local beer (*pito*), food vending and charcoal burning. Comparatively, more wives in non-migrant households than their counterparts left behind undertook multiple livelihood activities.

The sizes of the household ranged from two to 15 persons with an overall average of 6.3 persons. This was slightly higher than 4.8 persons recorded by the Ghana Living Standards Survey (Round Seven) for the Upper West Region (GSS, 2019). The average size of non-migrant households (6.8) was higher than that of their migrant counterparts (5.8).

In terms of economically active household members, it ranged from one to eight with an average of 2.7 persons. Average economically active persons in migrant households were 2.2 persons compared to 3.2 persons in non-migrant households. When the economically active members were disaggregated on the basis of gender, it emerged that relatively high percentage of non-migrant households (97.3%) had economically active males than their migrant counterparts (42.7%). On average, the non-migrant households had 1.5 economically active males relative to less than one person (0.7) in migrant households. In view of this, the ratio of economically active males to non-economically active members was relatively higher in non-migrant households.

The husbands in the respondent-households were categorised into out-migrants and non-migrants on the basis of their presence in or absence from the community. They were aged between 20 and over 60 years with an average of 51.5 years for the head of a migrant household compared to 49.5 years for their non-migrant counterparts. Whereas majority of non-migrants

(56.0%) were over 50 years, the reverse was the case for migrants (43.0%). The husbands in migrant and non-migrant households who were less than 40 years old formed 18.0 percent and 20.2 percent respectively.

The wives in migrant-sending households were asked about their spouses' duration of absence from the place of origin. Analysis of the duration of migration (150 out-migrants) showed that it ranged from two to 40 years; with a majority (80%) indicating 2 - 10 years and 12.7 per cent of them indicating 11 - 20 years ago.

Access to Land and Farm Size

The findings showed that the farm size ranged from less than an acre to over five acres. It emerged from the analysis that the size of farm cultivated by the households left behind was comparatively smaller than that of their non-migrant counterparts. An overall average size of household farm was 2.9 acres (2.7 and 3.1 acres for migrant and non-migrant household respectively).

With respect to changes in farm size within two years prior to the survey, only 14.0 percent and 19.3 percent of migrant and non-migrant households respectively increased their farm sizes. However, more migrant (70%) than non-migrant (57.3%) households witnessed a decline in the sizes of their farms during the same period. The remaining 16.0 percent and 23.3 percent of the migrant and non-migrant households respectively did not report of any change in their farm sizes.

During focus group discussions, it emerged that the decline in farm size was due to inability to provide labour required for cultivation rather than restrictions from customary rites or by relatives of their spouses. Thus, reduction in farm size was ascribed to decline in labour supply within migrant households owing to out-migration of husbands (lost-labour effect). In the case of non-migrant households, those who experienced decline in farm size attributed it to increased participation in non-farm activities. In addition, some also indicated that their husbands were advanced in age and could therefore, not provide labour for farming.

Farm Labour

Table 1 shows that the types of labour which the respondent households employed in their farming activities included hired labour, relatives of spouse, spouse (in the case of non-migrant households), wives themselves, and children (below 16 years).

Table 1. Percentage of respondents by types of labour used and household

Type of Labour	Migrant	Non-migrant	All Households
Wives	100.0	100.0	100.0
Hired labour	83.0	69.0	75.7
Children*	59.3	58.0	58.7
Husbands	NA	95.8	NA
Relatives of spouse	18.0	11.0	14.3
n	**150**	**150**	**300**

Note: *Children of school-going age (primary to Junior high school – [7-15 years])
Source: Household Survey

Farm Workload

A total of 71.3 per cent of the wives left behind compared to 54.0 per cent of their counterparts in non-migrant households indicated that their farm workload increased within two years prior to the survey. The results of a chi-square test (χ^2) revealed that, there was statistically significant difference in the farm workload between wives in migrant and non-migrant households. The results of the study also revealed that absence of husbands gave their

wives an additional burden in the farm but reduced household chores. This is how a wife of an out-migrant in Changu explained it during FGD:

> *If he is around, we will share the farm work; he will be doing his part. Today, he is not around; it means I have to face entire farm workload. His absence has, therefore, shifted the burden on the farm to me. However, as he is away, at least I do not wash his clothes any more. So my workload in the farm rises and that of domestic level comes down. Apart from that I still do all that I have to do as a wife.*

With regard to the specific activities performed by the wives, it emerged from the analysis that generally relatively lower percentages of wives in both households undertook weeding, clearing and ploughing of land (see Figure 1). However, the percentage of wives left behind who undertook weeding was almost twice that of their non-migrant counterparts.

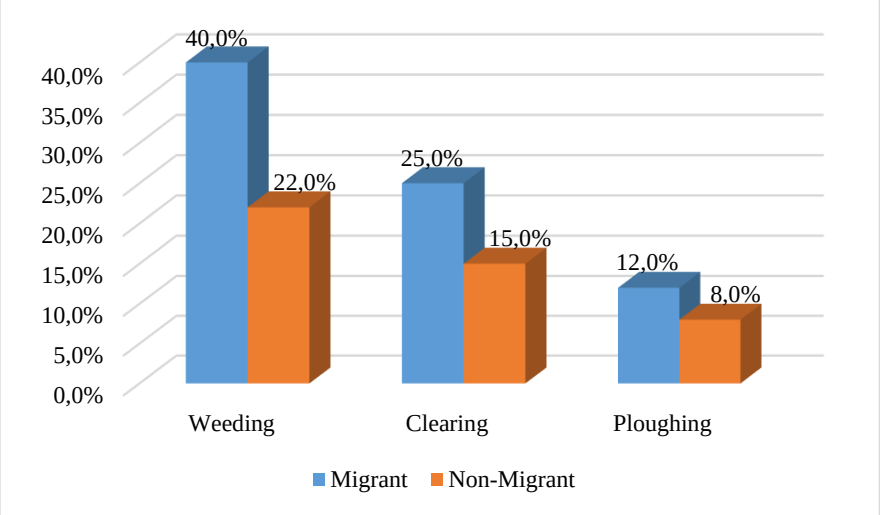

Figure 1. Selected farming activities performed by wives
Source: Household Survey by Authors

During FGDs, the wives of out-migrants were of the view that they had been forced to undertake male-dominated tasks as a result of the absence of their husbands and low application of modern technology. It also emerged that some wives in non-migrant households faced similar challenges because their husbands had advanced in age. This is how it was expressed by a participant during FGD at Sampana:

> *My husband cannot even go and labour for money (migrate) because he is old. In view of this, I live as though I am without a husband, because the man (husband) who is around cannot make any contribution to my life in terms of livelihood activities*.

Further analysis of FGDs revealed that during critical periods in the farming season, migrant households faced the difficult choice of diverting their labour from their own fields. Some of the wives reported that they offered labour in exchange for income in order to procure food or meet other basic household needs. Some also indicated that providing labour to assist other households in order to get some of their farm produce during harvest period was part of their coping mechanisms. This is how it was explained by a wife of an out-migrant at Takpo:

> *During the farming season, I go and help some people to sow with the hope that during harvest they will give me some foodstuff. This is the means that I use to supplement my own farm production in order to meet our food needs. Through this, I make sure that in an event of crop failure (on my farm), I can get some assistance from some community members*.

It was found that, increased feminization of agriculture experienced was without the necessary support in terms of periodic training. For instance, only 55 wives of household heads

representing 18.3 per cent of the 300 respondents indicated that they received some training to pursue their farming activities. They were made up of 25 wives in migrant households (16.7%) relative to 30 wives in non-migrant households (20%).

Furthermore, it was found that owing to pre-occupation of the wives left behind on their farm activities, they could hardly find time to pursue off-farm income generating activities except during the lean farming season. Thus, they could not effectively diversify their livelihood activities in order to spread the risks that they faced. In view of this, migrant households reported relatively low average income from off-farm activities (Gh¢ 700.15) compared to Gh¢ 900.28 for their non-migrant counterparts.

Hiring of Labour

The survey found that in spite of the fact that a relatively high percentage of the wives left behind (70.0%) reported reduction in farm size, more migrant (83.0%) than non-migrant households (69.0%) engaged labourers on their farms (see Figure 2). Figure 2 presents activities in which the households hired labour during farming season prior to the survey. Analysis of the types of farming activity for which labour was hired revealed that apart from harvesting, high proportion of migrant compared to non-migrant households used the services of farm labourers (see Figure 2). Comparison of percentage point differences between the two household types revealed that weeding was in the lead (15.0%) followed by land clearing (7.0%) and ploughing (8.0%).

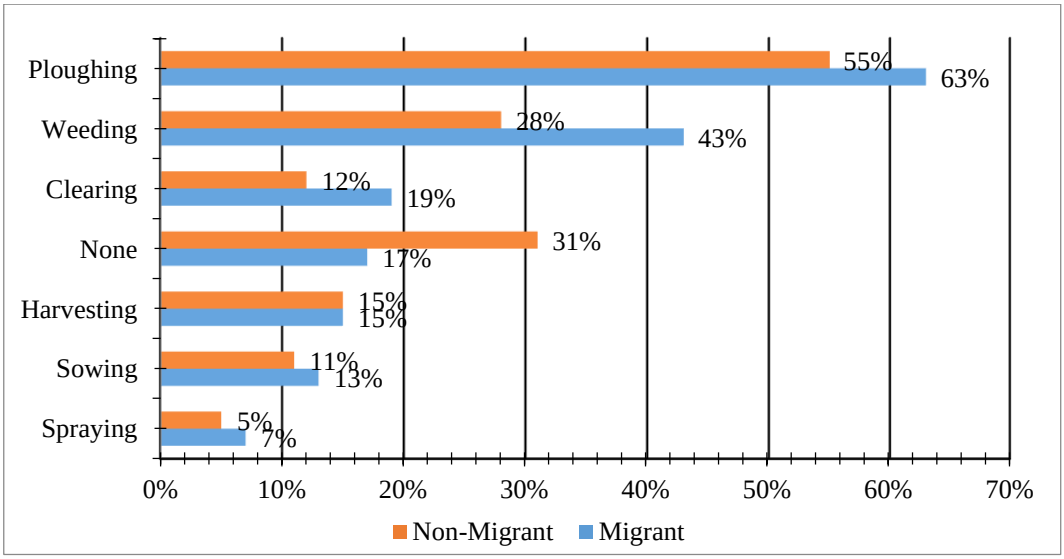

Figure 2. Farming activities in which labour was hired (%)
Source: Field Work

With regard to expenses incurred on hiring of labour, it was found that the cost of hiring labour during the farming season prior to the survey ranged from less than Gh¢25.00 to over Gh¢500.00 (see Table 2). It was observed that the majority of both household types spent not more than Gh¢100.00 on hiring labour during the farming season. Only 21.4 percent of the migrant households compared to 14.9 percent of the non-migrant households spent more than Gh¢100.00 (see Table 2). In terms of average labour cost incurred, the non-migrant households spent higher amounts (Gh¢97.93) than their migrant counterparts (Gh¢59.78).

Table 2. Amounts spent on hiring of labour

Amount (Ghȼ)	Migrant	Non-Migrant	Total
Less than 25.00	13	10	23
25.00 – 50.00	39	37	76
51.00 – 100.00	29	27	56
101.00 – 250.00	12	10	22
251.00 – 500.00	8	2	10
Over 500.00	2	1	3
N	**103**	**87**	**190**

Source: Household Survey by Authors

Analysis of the sources of funds for the payment of labour services revealed that in migrant households, majority of wives were responsible for payment of the cost of hiring labour (see Figure 3). On the other hand, the bulk of the resources for the payment of labour charges in non-migrant households came from their husbands. Figure 3 presents the sources of funds for the payment of farm labour by household type. Surprisingly, almost the same proportion of migrant and non-migrant households received support from relatives to pay for hiring of farm labour.

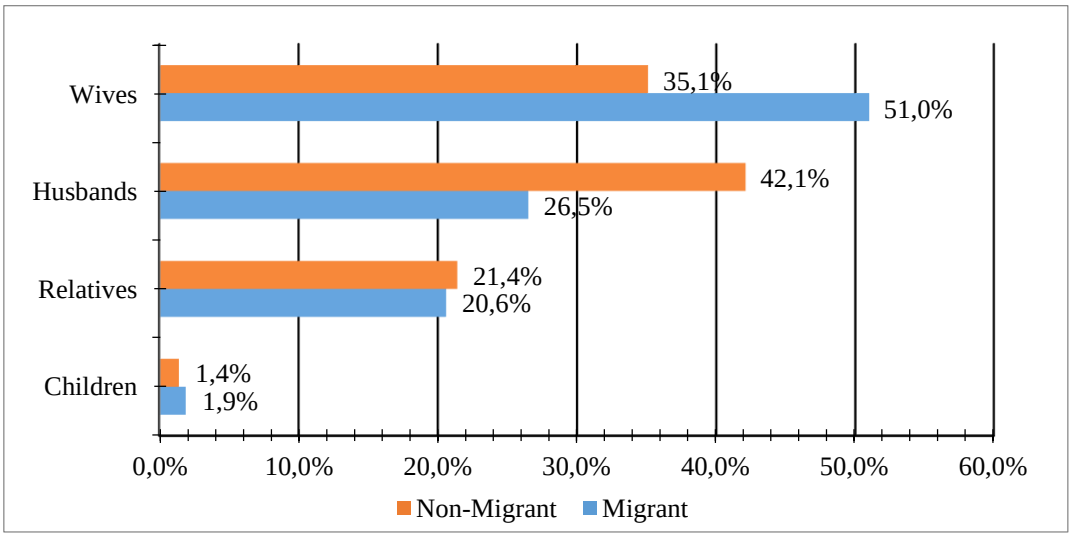

Figure 3. Comparison of the sources of funds for the payment of farm labour (%)
Source: Field Work

Figure 3 further shows that just a little over one out every four wives in migrant households indicated that their husbands (out-migrants) were directly responsible for the payment of labour cost. In addition, one out of every ten wives in migrant households which received cash remittance (from their spouses) stated that they used part of their remittance income to hire farm labour. They indicated that in order to meet other household commitments including food, health, education of children, funeral donations, etc. they had to use small proportion of remittances received for hiring labour.

The analysis of FGDs showed that some of the wives of out-migrants were exceedingly burdened with farm workload in addition to the financial burden they faced. In view of this, they felt that life was very stressful for them.

Discussion of Results

Analysis of the survey data further showed that the two types of household displayed an active participation of wives in farming activities. This implies that irrespective of the

migration status of husbands, wives participate in farm activities; and this could be explained by the fact that the roles of wives in the household farm is critical for production among the Dagaabas. This is because traditionally, they (wives) are required to work alongside their husbands (Apusigah, 2009). Thus, among the Dagaabas, it has been established that women usually operate their own farms known as side farm; from which they produce vegetables for household consumption

The finding that comparatively more wives left behind than their counterparts in non-migrant households experienced a rise in farm workload confirms earlier studies which show that out-migration of husba nds leads to increased workload for the wives left behind (Myers *et al.*, 2006, Izzard, 1985; Katz, 2003, Deere, 2005; Kaspa, 2006). It however, contrasts the finding of McEvoy (2008) that, direct field participation of wives in households of Mexican emigrants in the United States did not increase. It rather led to increased supervision of farm labourers by the wives left behind (de facto farm manageress). This was made possible by the relatively larger volume of remittances received by the wives of Mexican emigrants. The differences could be explained by the fact that, it is generally believed that remittances from international migrants are relatively higher than that of their internal counterparts (Adaawen & Owusu, 2013, Castaldo, *et al.*, 2012).

There were marked differences between the two types of household in terms of labour hiring, availability of husbands and support from relatives toward their farming activities. In the case of non-migrant households, their husbands formed a significant source of labour for farming. The reduction in household labour supply for farming operations in migrant-sending households during absence of husbands which increased their dependency on hiring of labour constitutes one of the offsetting factors of male out-migration (Mendola, 2006). This represents one of the visible effects of male out-migration on a rural farming household (supply of labour). This could be explained by the fact that, small-scale agriculture is mainly a labour intensive activity (Quaye, 2008).

Hiring of labour points to the fact that absence of husbands reduced household labour supply for farming operations in migrant households; and thereby increased their dependency on hiring of labour. It was also found that although hiring of labour for farming was not peculiar to husband's absence, it was however remarkably low during the period prior to their departure. Analysis of the field data also showed that with the exception of clearing, weeding and ploughing of land, there were no marked differences between the two periods (before and after migration of husband).

For instance, it was found that one out of every five households left behind did not employ the services of farm labourers prior to out-migration of their husbands, but this reduced to about one out of ten (11%) after husbands' migration. This was against the backdrop of majority of wives in migrant households (70%) experiencing a decline in farm size during the absence of their husbands. This is indicative of the fact that hiring of labour for farming activities is negatively related to availability of husbands (Cheney & Lewis, 1980; Meillassoux, 1981; Izzard, 1985).

Contrary to expectation that given the shortage of labour supply in households left behind, more migrant than non-migrant households would engage their children in household farming activities; there was no significant difference in terms of involvement of children in household farming activities. This could be explained by the use of part of remittance income to hire farm labour by migrant households (pp. 9). This confirms the findings of other studies that part of remittances received by wives left behind goes to farm cultivation, specifically hiring of labour (Agyei, 2016; Adaaween & Owusu, 2013).

In spite of the increased farm workload on wives left behind, they were not spared financially. Although wives in migrant households were found to be overburdened financially, it emerged that their husbands shouldered responsibility for the welfare of their households.

This confirms the hypothesis of NELM that migration is a survival strategy adopted by households rather than individuals (Stark, 1991; Stark & Levhari, 1982).

Although diverting household labour to neighbour's farm could enable them to cope with short-term food needs, this practice ultimately increased their workload. This could have serious adverse implication on their own-farm production and household food security in the long term. This is based on the fact that own-farm production by poor households represents a better option for addressing food insecurity (Quaye, 2008).

There was increased feminisation of agriculture, but it occurred without the necessary support in terms of periodic training and technology. This could be detrimental to the general welfare of women; and thereby lead to deterioration in household welfare. Among other things, it emerged that increased farm workload experienced by the wives particularly, those in migrant households had adverse effect on their ability to perform domestic chores (i.e. child care) and participation in social activities.

Conclusions and Recommendations

The findings show that there were remarkable differences between the migrant and non-migrant households in terms of the type of labour used for farming activities. More wives left behind became highly dependent on paid labour services for their farming activities; and this increased their financial burden. This confirms the assertion by Mendola (2006) that labour loss constitutes an offsetting effect of out-migration.

Although the majority of wives in migrant households reported a decline in the size of their farms, they experienced increase in farm workload (including undertaking typically male-dominated tasks such as land clearing, ploughing and weeding) than their counterparts in non-migrant households. This also confirms the findings of earlier studies that out-migration of husbands increases the workload of wives who remain at the place of origin.

Among other things, implications of the findings included the fact that increase in farm workload for wives without appropriate farming technology undermines their wellbeing. This situation saps their energies, and could contribute to ill-health conditions associated with heavy workload. This phenomenon is also likely to provide a basis for increased involvement of their children of school-going age in household farming activities. Consequently, it could reduce their school attendance needed to enhance their human resource base required for improvement in livelihoods and exit from poverty in the long term.

In addition, increased workload on wives adversely affects their participation in non-farm livelihood activities which could reduce income poverty and enhance household food security. It must be observed that one of the coping mechanisms of the poor households to address vulnerabilities is the pursuit of multiple livelihood strategies. In view of this, inability to effectively participate in non-farm activities could exacerbate household poverty and undermine the overall welfare of the household. This calls for pragmatic approach to address the underlying causes of internal migration. On the basis of these findings, the following suggestions are offered to help improve household welfare:

1. There is the need to intensify provision of irrigation facilities in the Savannah Agro-Ecological Zone in order to boost agricultural production. This would help reduce the relatively high incidence of male out-migration or enable them to embark on migration of choice rather than survival. It is suggested that the Northern Development Authority (NDA), Ministry of Food and Agriculture (MoFA), Irrigation Development Authority, civil society organisations and the respective District Assemblies should play a key role in the construction of small scale dams. This must be accompanied by appropriate land leasing arrangements to ensure that local residents have access to irrigated-land for their livelihood activities.
2. There is the need for modernization of agriculture in order to reduce drudgery for the enhancement of the welfare of operators particularly, women in the sector. NDA should

collaborate with MoFA to make available basic equipment for farming such as tractor service for land clearing and ploughing in the Savannah Agro-Ecological Zone at the community level.

3. In order to promote effective exit from poverty and improve household welfare, there should be periodic training to build the capacity of women in non-farm livelihood activities. This would, among other things, help reduce financial stress as women play leading roles in meeting the welfare needs of their households, particularly food security.

References

Adaawen, S. A. & Owusu, B. (2013). North-South Migration and Remittances in Ghana. *African Review of Economics and Finance, 5*(1), 29-45.

Agyei, J. (2012). *Internal Migration and Household Livelihoods: Effects of Male Out-Migration among Dagaabas in the Nadowli District.* A Thesis submitted to the Faculty of Social Studies, University of Ghana, Legon in fulfilment for the award of PhD in Geography and Resource Development.

Apusigah, A. A. (2009). The gendered politics of farm household production and the shaping of women's livelihoods in Northern Ghana. *Feminist Africa, 12*(12), 51-67.

Awumbila, M. & Ardyfio-Schandorf, E. (2008). Gendered Poverty, Migration and Livelihood Strategies of Female Porters in Accra, Ghana. *Norwegian Journal of Geography, 62*(3), 171-179.

Awumbila, M., Owusu & Teye, J. K. (2014). *Can Rural-Urban Migration into Slums Reduce Poverty? Evidence from Ghana.* Migrating out of Poverty, Working Paper 13.

Benneh, G., Agyepong, G. T. & Allotey, J. A. (1990). *Land Degradation in Ghana.* Commonwealth Secretariat/ University of Ghana. Pall Mall, London.

Boserup, E. (1970). *Woman's Role in Economic Development*. New York: St. Martin's Press.

Castaldo, A., Deshingkar, P. & Mckay, A. (2012). *Internal Migration, Remittances and Poverty: Evidence from Ghana and India.* Migrating Out of Poverty, Working paper 7, September 2012, University of Sussex.

Castro, F. G. Kellison, J. G. Boyd & Kopak, A. (2010). A Methodology for Conducting Integrative Mixed Methods Research and Data Analysis. *Journal of Mixed Methods, 4*(4), 342-360.

Cheney E. M. & Lewis, M. W. (1980). *Women, migration and the decline of small holder Agriculture*. Report prepared for the office of Women in Development. US Agency for International Development, Washington DC.

Codjoe, S. N. A. (2005). Impact of Population growth on agricultural land use in the Volta River Basin of Ghana. *Bulletin of the Ghana Geographical Association, 24*, 51-68.

Corbett, J. E. M. (1988). Famine Household Coping Strategies. *World Development, 16*(9), 1099-1112.

Corbett, J. E. M. (1999). Livelihoods and Poverty: the Role of Migration – A critical Review of Migration Literature. *Journal of Development Studies, 36*(2), 1-47.

Creswell, J. W., Plano Clark, V. L. Gutmann, M. L. & Hanson, W. E. (2003). Advanced Mixed Methods in Research Design. In A. Tashakkori & C. Teddiie (Eds.), *Handbook of Mixed Methods in Social and behavioural Research.*

de Haan, A. (2000). *Migration and livelihoods: case studies in Bangladesh, Ethiopia and Mali*. Institute of Development Studies Research Report 46. Brighton: IDS, University of Sussex.

Deere, C. D. (2005). *The Feminization of Agriculture? Economic Restructuring in Rural Latin American*. United Nations Research Institute for Social Development. Occasional Paper 1, Feb 2005.

Ellis, F. (2003). *A Livelihoods Approach to Migration and Poverty Reduction*. A paper Commissioned by DFID Migration Policy Team, October, Contract No: CATR 03 4890.

Food and Agriculture Organization (1999). *The Feminization of Agriculture*. Rome, Italy. Retrieved May 10, 2008, from http//www.fao.org/Gender/en/agrib2-e.htm

Ghana Statistical Service (1995). *Migration Research Study in Ghana* (Vol. 1), Internal Migration in Ghana.

Ghana Statistical Service (2019). *Ghana Living Standards Survey (GLSS7*). https://open.africa/dataset/ghana-living-standards-survey-glss-7-2017

Harris, J. R. & Todaro, M. P. (1970). Migration, Unemployment and Development: a Two Sector Analysis. *The American Economic Review, 60*(1), 126-142.

Izzard, W. (1985). Migrants and Mothers: a case study from Botswana. *Journal of South African Studies, 11*, 258-280.

Kaspa, H. (2006). I am the head of Household Now. The Impacts of Outmigration for Labour on Gender Hierachies in Nepal. In S. Premchander & C. Miller (Eds.), *Gender and Sustainable Development: Case Studies from NCCR North-South* (pp. 285-303).

Katz, E. (2003). *The Changing Role of Women in the Rural Economies of Latin America*. In CUREMIS II, Pp. 31-65 in *Food, Agriculture, and Rural Development Volume I: Latin America and the Caribbean*, edited by B. Davis. Rome, Italy: FAO.http:www.fao.org/documents/show_cdr.asp?url_file=/DOCREP/006/Y4949E/Y4940E00.HTM

Knodel, J. (1997). A case for non-anthropological qualitative methods for demographers. *Population and Development Review, 23*(4), 847-853.

McEvoy, J. P. (2008). *Male Out-Migration and the Women Left Behind: A Case Study of a Small Farming Community in Southeastern Mexico*. All Graduate Theses and Dissertations. Paper 179. http://digitalcommons.usu.edu/etd/179

Meillassoux, C. (1981). *Maidens, Meal and Money*. London: Cambridge University Press.

Mendola, M. (2006). *Rural Out-migration and Economic Development at the Origin. What do we know?* Sussex Discussion Paper No. 40, University of Sussex, Brighton.

Myers, M., David, R., Akrat, & Hamid, A. A. (1996). *The Effects of Male out-migration on Women's management of Natural Resources in the Sudan*. Issue Paper, Dryland Programme, United Kingdom, SOS Sahel.

Obbo, C. (1980). *African Women: Their struggle for Economic Independence*. London: Zed Press.

Quarter, P. & Yambila, E. (2009). The Costs and Benefits of Child Migration in Ghana. The Case of Child Migrants from Northern Ghana. In J. K. Anarfi & S. O. Kwankye (Eds.), *Independent Migration of Children in Ghana* (pp. 248-291).

Quaye, W. (2008). Food Security Situation in Northern Ghana, Coping Strategies and Related constraints. *African Journal of Agricultural Research, 3*(5), 334-342.

Rogaly, B. (2003). Who goes? Who stays back? Seasonal migration and staying put among rural manual workers in Eastern India. *Journal of International Development, 15*, 1-10.

Song, Y. (1998). *New Seed in Old China. Impact of CIMMYT Collaborative Programme on Maize breeding in south-western China* [PhD thesis]. Wageningen, the Netherlands, Wageningen University and Research Centre.

Songsore, J. & Denkabe, A. (2001). *Challenging Rural Poverty in Northern Ghana: The Case of the Upper West Region*. Trondheim: University of Trondheim.

Stark, O. & Levhari, D. (1982). On migration and Risks in LDCs. *Economic Development and Cultural Change, 31*, 191-96.

Stark, O. (1991). *The Migration of Labour*. Cambridge: Brasil, Blackwell.