



THE ROLE OF WOMEN IN AGRO-PASTORAL HOUSEHOLD FOOD SECURITY: THE CASE OF THE TONO IRRIGATION PROJECT IN THE KASSENA NANKANA MUNICIPALITY, GHANA

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ABSTRACT

Women play a very vital role in household food security in most developing countries including Ghana. However, their contribution in this constrained by a number of socio-cultural and economic barriers. This study therefore seeks to assess women's contribution to household food security and determine the barriers that are checking their optimum output in the Kassena-Nankana Municipality. Observations, focus group discussions, interviews, and questionnaires were used as primary data collection tools. Other relevant data from secondary sources such as documentaries from the Tono irrigation project, journals articles and books were used to gather historical information for the analysis. Purposive sampling was used to select 160 participants and respondents from 2049 women in six communities for the study. The findings of the study showed that 57.3% to contribute to household food security out of this 84.4% are into agricultural production. About 84% (83.8%) of the respondents indicated that they undertake crop production, with 81.25% of this cultivating groundnut. Also 75.63 indicated that they cultivate rice. The study further revealed that 76.25% and 65.63% of the respondents were into beans and maize production respectively. Only 20% were into other crops not stated. About 82% were engaged in animal production as well. Forty three percent (43%) were engaged in food processing, 37% in farm labour services and 20% in trading in farm produce. The constraints facing women were non- involvement of women in traditional rituals, none inclusion in community decision- making process. The contribution of women was however, significant achieving food security. About 93% were aware of government policies in place to enhance women participation in food security. Women farmers in the Municipality produce more than three-quarters of the District's basic food, manage some two-thirds of marketing and at least one half the activities required for storing food and raising animals. Relevant bodies may therefore be encouraged to intensify advocacy in this regard.

Keywords: Agro-Pastoral, Challenge, Economic, Food Security, Women

INTRODUCTION

World Bank (1986) defines food security as access by all people at all times to adequate food of good quality for active and healthy life. The realization of the importance of the social roles of women in societies and their involvement in economic activity have become noteworthy. All over the world women's contributions to household food security are enormous. For example, in Asia, women account for more than two thirds of food production while 45 percent in Latin America and the Caribbean (FAO, 2003). It has been recorded far back in the early 1990s that women farmers in Sub-Sahara Africa produce more than three-quarters of the region's basic food. About two-thirds of these women are into the marketing of farm produce and at least one half handles the activities required for storing food and raising animals (Gittinger, 1990; Saito, 1994).

Women are now cultivating crops and rearing animals just as men do. They are increasingly involved in making major decisions on management of farms and households. With few exceptions, women fulfill multiple jobs with little or no access to production enhancing resources and services such as credits and health care. This may be due to some traditional beliefs and practices especially in the Kassena-Nankana Municipality where the inhabitants are indigenous land owners. Even though women's contributions to household food security is important, more than 70% of them live in absolute rural poverty (World Bank, 1990).

Women's contributions to household food security are influenced by gender inequality; even though women play significant role in the economy of a given household. A great deal of empirical research has convincingly demonstrated that gender is important in defining the economic role of rural people in Africa (McSweeney, 1979). This in turn has resulted in a growing recognition that men and women often have very different rights and responsibilities with respect to resource use and decision making in the process of agricultural production. This recognition has resulted in a number of studies documenting the roles of women and men in various farm, non-farm, food preparation, household maintenance and child care activities (Whitehead, 1985; Bryceson, 1995).

Wamer *et al* (1997) confirmed in his studies that both gender and household-based approaches are useful frameworks for targeting policy and interventions in rural areas. Saito (1994) also reported that agricultural productivity could also be determined by gender differences if men and women use different technologies or different quantities of factors, or there are differences in the quality of these factors.

The rural sector in many developing countries is increasingly characterized by the prevalence of poverty and food insecurity (FAO, 1990b:2). Recent years have shown a new trend, most prominent in Africa, whereby male family members leave the rural household to try to find waged labor in the urban centers and increase the family income. Hence, in Sub-Sahara Africa women in charge of homes and making all production decisions accounted for 31 percent of the households (FAO, 2003). The traditional gender division of labour, intra household rights and obligations is weakening, the gender-based division of labour is breaking down and farm women are increasingly undertaking tasks which were earlier done by men. Despite the economic gains that Ghana has made over the decade, poverty and household food insecurity remain a persistent and pressing social concern. Food insecurity is a major problem amongst a large part of the population. An estimated number from a non-governmental organization indicates millions of Ghanaian households experience food related hardships, most of them chronic (31st DWM, 1999). About 1.2 million Ghanaians, representing five per cent of the national population, currently live under a situation of food insecurity, while two million others representing nine per cent of the population are vulnerable to become food insecure (Quaye, 2008). In order to ensure food security, education and human development, is needed. Those living in the rural areas, especially women must have access to productive resources such as land, credit and inputs to grow enough food for their households. Research evidences show that empowering rural women, -increasing economic assets that women control, has a positive impact on the family, particularly on food and nutrition security, health and education (Quisumbing *et al.*, 1995). Yet most rural Ghanaian women have less access to economic and productive resources, and are generally discriminated against in personal and social relationships and all these combine to make their households more food insecure. A study on the Socio Cultural factors that affects Women's contribution to food security in the Municipality revealed that, there was no involvement of women in traditional rituals among others. No inclusion of women in the decision-making process, for example, the distribution of farm lands and the sale of family lands. In addition to that, was the issue of widowhood rites from some families' members where property of the deceased was taken by immediate brothers at the expense of their wives thereby depriving them from contributing effectively to food security situation in the area (Brammah *et al.*, 2014).

FAO (2011), studies on women and sustainable food security confirm that while women are the mainstay of small-scale agriculture, the farm labor force and day-to-day family subsistence, they have more difficulties than men in gaining access to resources such as land, credit and productivity-enhancing inputs and services. Understanding poverty, the hunger cycle, and survival strategies is important for finding the

best ways of supporting rural women's productive activities. Braimah *et al* (2014), reporting on challenges Women face towards household food security also confirmed that women in the study area had limited access to resources and their insufficient purchasing power were the products of a series of inter-related social, economic and cultural factors that force them into a subordinate role, to the detriment of their own development and that of society as a whole, which, in the long run affected them in their efforts of attaining food productivity. According to the results of the study, there was a general difficulty for women in accessing productive farm land, just because of a deliberate denial by landlords. Again, lack of technology among female farmers, poor access to farm inputs, such as improved seeds, fertilizers and pesticides, late land preparation and abject poverty for example, lack of credit facility, were some of the challenges they were faced with over the years (Braimah *et al*, 2014). There is also a major constraint to the effective recognition of women's roles and responsibilities in agriculture and this can be blamed on the scarcity of gender-disaggregated data available to technicians, planners and policy-makers in the Kassena Nankana Municipality (Braimah *et al*, 2014). Therefore it is necessary to assess women's contribution to household food security and determine the barriers that are checking their optimum output in the Kassena-Nankana Municipality.

MATERIALS AND METHODS

Description of Study Area

The Municipality is in the Upper East Region of Ghana and shares boundaries to the North with Kassena-Nankana-West and Burkina Faso, to the East with Kassena-Nankana West and Bolgatanga Districts, West with the Builsa Districts and South with West Mamprusi District in the Northern Region(Fig.1).

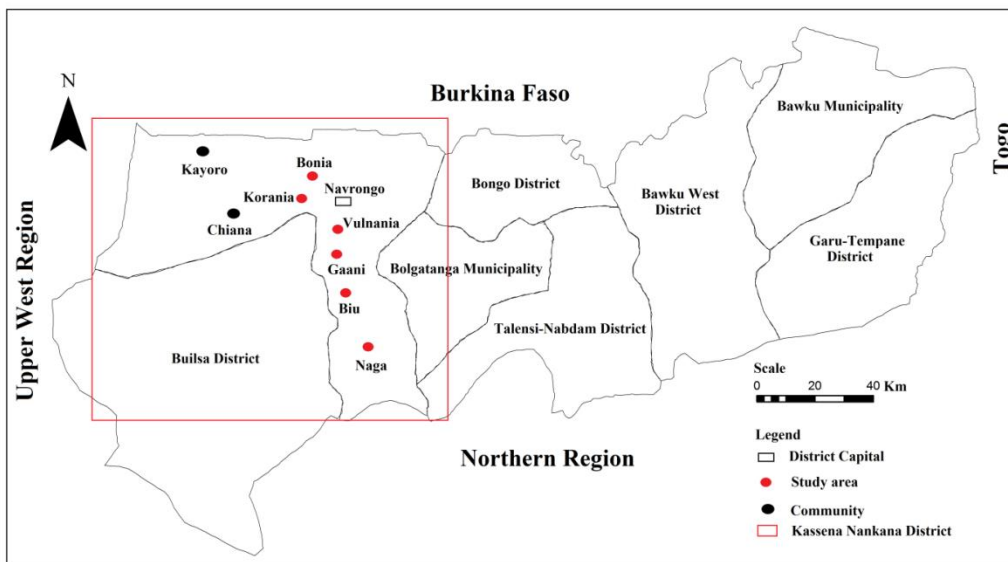


Fig 1: Map of Kasena-Nankana Municipality Showing Study Communities in Red

The District recorded a population density of 91 persons per sq. km. This is higher than the national density of 79.7 persons per sq km but below the regional density of 104.1 persons per sq. km. The climatic conditions of the District are characterized by the dry and wet seasons, which are influenced mainly by two (2) air masses – The Harmattan air mass (North-East Trade winds) and the Tropical Maritime (South-West). The Harmattan air mass (North-East Trade Winds) is usually dry and dusty as it originates from the Sahara Desert. During such periods, rainfall is virtually absent due to low relative humidity, which rarely exceeds 20 per cent and low vapour pressure less than 10mb. Day temperatures are high recording 42° Celsius (especially February and March) and night temperatures are as low as 18° Celsius. The District experiences the tropical maritime air mass between May and October. This brings

rainfall averaging 950mm per annum. This makes most of the youth in the district idle during the dry seasons (November to April). Two main types of soil are present within the District namely the Savannah ochrosols and groundwater laterite. The northern and eastern parts of the district are covered by the Savannah ochrosols, while the rest of the District has groundwater laterite. The Savannah ochrosols soil type is suitable for cultivation and hence accounts for the arable land sites including most parts of the Tono Irrigation Project sites where both wet and dry season farming activities are concentrated. The District consists of 216 communities – majority of which are rural, only 13 per cent of the population live in towns. At least three out of four people in the district reside in rural areas.

Data Collection

Both primary and secondary data sources were used to gather relevant information for analysis and discussions. Purposive sampling was used to select six communities in the Kasena-Nankana Municipality. Considering the nature of the communities in which the study was carried out, a hybrid sampling method was used to arrive at the sample population. Close and open ended questionnaire were used to collect data from the interviewees. In addition to the questionnaire, empirical verification was done via observation of attitudes and behaviors of female farmers. Women farmers of all ages were interviewed from the dry season farmers and livestock producers. Focus group discussions were held with various groups. It involved opinion leaders, farmer-group organizations, agricultural extension officers, the 31st December Women’s Movement (DWM) chiefs from the study areas.

Data Analysis

The data obtained was analyzed using Statistical Package for Social Scientist (SPSS) and Microsoft Excel.

RESULTS AND DISCUSSION

Level of Education

Table 1: Distribution of respondents by level of education

Level of Education	Percentage
Tertiary	0
Secondary	5.0
Basic	34.4
None	60.6
Total	100.0

(Source: Field Work, 2014)N=160)

Table 1 indicates that as many as 60.6% of the respondents had no formal education. This is consistent with findings by Adeniji (2013) that about 64% of farmers are illiterates. Out of the total respondents 34.4% indicated that they attained basic school education. Only 5.0% indicated that they had secondary education. None of the respondents indicated that they attained Tertiary education. This might explain the low technology adoption rate and hence the low productivity.

Marital status of the respondents

The respondents were asked to indicate their marital status. Figure 1 showed 77.5 percent were married. Only 0.6% was divorced while about 12.5% indicated they were widows. Fifteen percent were singles but have to go into farming to help them earn a living. During the interview, some indicated that cost of living was hard and they have to support the family by going into farming.

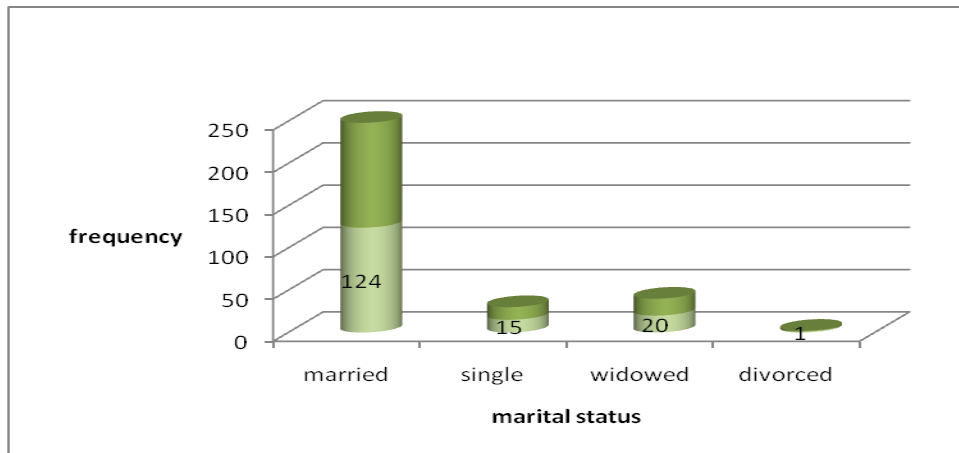


Figure 1: Marital status of respondents (Source: Field Work, 2014)N=160)

Household size of respondents

The analysis showed that 60% had a small household size less than 4. The findings in this study reflected a similar result from Adeniji (2013) which indicated that 74% of the respondents had small household sizes. Only 10% had a single household. Fifty percent have their household ranging from 5 to 7 people. About 35% indicated that even though they had about 8-10 people living with them, their biological children were only 2 to 3. The result showed that 5% of the respondents were alone and had a household size of 10 or more dependents.

Women attitudes towards contribution in household food security

Table 2 shows that over half of the participants constituting 57.3% of the women in this study reacted positively towards contribution in household food security in the Kasena-Nankana East Municipality. The three highest expression of positive attitude were 73.6 and 63.5 percent. Table 2 shows that the three most positive attitude towards household food security were in Bonia, Biu and Naaga with percentages 59.9, 59.8 and 58.7 respectively. The least percentage positive response was in Kwarania with 51.2% responding to the statements. The indications are that over 50% of women are involved in active agricultural production.

Table 2: Percentage of Women Selecting Positive Responses for Various Attitudinal Dimensions in all Settlements

Attitude Variables	Percentage Positive Responses						
	Bonia	Kwarania	Gaani	Vunania	Biu	Naaga	All
Value	72.2	68.3	80.5	68.0	70.2	69.4	71.9
Expectations	39.0	40.4	40.3	33.2	30.6	42.4	37.7
Interest	70.2	72.0	78.2	68.8	82.2	70.0	73.6
Confidence	52.3	60.7	44.1	53.0	59.4	68.6	56.4
Motivation	57.3	48.2	55.5	47.0	48.2	40.1	49.4
Anxiety	68.4	69.0	50.4	63.5	68.0	61.7	63.5
All items	59.9	51.2	58.2	55.9	59.8	58.7	57.3

(Source: Field Work, 2014)N=160)

Overview of food security over the past decade in Kasena-Nankana East Municipality

The introduction of the Tono irrigation project in the area over the past thirty years has come to supplement the rain fed agriculture to ensure food security in the communities especially those along the project site. Over the period, dry season gardening for the production of vegetables, the cultivation of rice at the canals, fishing farming, rearing of livestock among others were some of the reasons for improved food security situation in the study area. Also improvement of education of the people in terms of

agriculture production, the introduction of improved technology and the availability of farm inputs was keen to this development over the period. Finally, the participants said women in agriculture production have had a very significant impact on the food security development in general during this period under review.

Government has come up with many policy interventions over the period which has helped them to increase their yields and subsequently improve the food situation in the communities. For instance, the introduction and building of irrigation scheme, provision of subsidies on farm inputs such as fertilizers and other agro-chemicals and the introduction of new technologies for improved agricultural production were among the reasons given for the improved food situation in the district. However, there were other communities in the district whose food situation was not good enough and this was due to emergence of natural disasters such as flooding and poor rainfall pattern that they faced over the period (personal communication).

On the issue of women involvement in agricultural production, 84.4 percent of the respondents stated they were into agricultural production. While 15.6% indicated no. Also 83.8% of the respondents indicated that they undertook crop farming with 16.2 percent indicating otherwise. This is consistent with findings by Akpabio (2005) that women play very important roles in sub-Saharan Africa where they physically produce 70-80 percent of domestic food crops, hence helping in ensuring family (Household) and national food security.

Main crops produced by women in the Kasena-Nankana Municipality

Among the agricultural activities towards household food security, women undertake farm activities and agricultural labour. They undertake crop farming to feed the family. The major crops produced in the District were mainly rice, soya bean, millet, maize, groundnuts, beans, guinea corn and various vegetables. 81 percent (130 out of 160) cultivated groundnut 76% cultivated rice. The study further revealed that 76.25% and 65.63% of the respondents were into beans and maize production respectively. Only 20% were into other crops not stated. Production of animals was one of the ventures women engage in.

Other economic activities in support of household food security

The study showed other economic activities undertaken by women to support household food security. 43 percent were into food processing, 37 percent farm labour and 20 percent trading. On the part of food processing, the main methods of processing of their food crops included threshing, winnowing, milling and drying. The findings support Kabeen (1994) that women are the back bone of agricultural sector accounting for 70% of agricultural labour and responsible for 60% agricultural production and 80% of food production. Boiling and frying were used for extracting oil from groundnuts and Shea butter. 93% of respondents were aware that government has policies in place to enhance food security.

Access to agricultural supportive resources

81 percent of the respondents have access to agricultural supportive resources. This was consistent with Adeniji (2013) findings that majority (63%) of the respondents owned personal farms and point to the fact that majority of them contribute in one way or the other in ensuring household food security. Fifty seven (57) percent had new technological training and 33 percent had land. Table 3 shows various kinds of agricultural supportive resources.

Table 3: Agricultural supportive resources in the Municipality

Agricultural supportive resource	Percent
not applicable	0.8
extension services	7.8
new technology	57.0
credit facility	0.8
acquisition of land	32.8
farm inputs	0.8
Total	100.0

(Source: Field Work, 2014)N=160)

Major Agriculture Production Constraints

The nature of the problem a household encounters in the course of its economic undertaking is an important indicator of the household vulnerability to risks and shock. As households differ in the problems encountered, their food security situation also differs. The major crops grown in general are constrained by different problems. Lack of enough water takes the lead in all villages. 65% of the sampled households claim this problem. This is followed by the prevalence of crop diseases, insects and pests that trouble 14 % of the households. Moreover, the presence of infrastructures and related problem-market is the third problem affecting crop productivity and profitability. For that reason, 6% of the households state this problem. Finally, the absence of sufficient cultivable land and lack of labor are other problems revealed in the Municipality. The findings in this study reflected a similar result from Braimah *et al* (2014), which indicated challenges women face towards household food security, also confirmed that women in the study area had limited access to resources, and their insufficient purchasing power were the products of a series of inter-related social, economic and cultural factors that force them into a subordinate role, to the detriment of their own development and that of society as a whole, which, in the long run affected them in their quest of attaining food productivity. According to the results of the study, there was a general difficulty for women in accessing productive farm land, just because of a deliberate denial by landlords. Again, lack of technology among female farmers, poor access to farm inputs, such as improved seeds, fertilizers and pesticides, late land preparation and abject poverty for example, lack of credit facility, were some of the challenges they were faced with over the years.

Table 4. Distribution of the sampled households by major crops constraints

Major crop constraints	Frequency	Percentage
Water shortage	104	65
Insects ,pests and diseases	22	14
Lack of fertilizers and agricultural tools	19	12
Infrastructures problems-market and Transport	10	6
Lack of labor	3	2
Limited cultivable land	2	1
Total	160	100

Source: Field Work, 2014)N=160

CONCLUSION

Women usually conduct income-generating activities of one kind or another throughout the year. The large majority of these women usually used traditional, low-capital input and labour-intensive activities. They cover a fairly typical range, including charcoal-selling, household-based food processing, crafts such as basket-weaving and petty trading among others. Women switch from one activity to another according to what is most likely to be profitable at a given time. Women with childcare or other heavy domestic obligations (such as the care of the sick or elderly) selected a less profitable off-farm productive activity in order to combine domestic and production responsibilities. The study revealed that, income generated by women in the Kassena-Nankana Municipality is small, but it plays a significant role in meeting family food needs. Women in the sample settlements shows positive attitude towards contributing to household food security particularly when a harvest is poor. In carrying out micro and small-scale activities, women are hampered by lack of time, lack of literacy skills and poor marketing opportunities.

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