This study adopted the sequential design within the mixed methods approach where the quantitative data was followed by the qualitative data (Creswell, 2013) and where the qualitative findings were used to contextualized the quantitative data (Creswell, Plano-Clark, Gutmann and Hanson, 2003). The qualitative data also improved and enhanced the results and helped to generate new knowledge. The study combined the strengths of both quantitative and qualitative research, relating concepts and views and comparing findings with data from different situations and times. This design was appropriate for this study because of the nature of the study which was to examine the effects of the VSLAs on rural women's livelihoods. The quantitative data enhanced the understanding of the meaning of numbers, and it was well structured and the results easily collated and presented statistically while the qualitative data enabled the researcher to get an in-depth knowledge of respondents' feelings that could not be expressed quantitatively.

The target population was the VSLA members within the district. The total number was 340 women's groups with 10,200 members. The district was divided into three clusters/zones namely North, East and West for the study. A multi-stage sampling technique was used to sample the women within the district. Multistage sampling is where the sampling is carried out in stages. At the district level, the VSLAs members were clustered into three (3) zones namely, North, West and East.

A simple random sampling technique was used to permit every member of the population to have an equal chance of being included in the final sample. Numbers were assigned to members of the VSLAs in the district and written on pieces of papers and folded into a box. The numbers were mixed up and drawn in the lottery style till the required sample size for the study was obtained. This gave each member an equal opportunity of being selected. The identification and selection of the respondents was facilitated by the community contact persons of the VSLAs of the various communities in the district.

The statistical method for determining sample size of a discrete or nominal population was used to determine the sample size of the study at a significance level of 0.10. The sample size was determined by the formula: $n=N\div [1+N (A) 2]$ where n= sample size; N= total population and A= margin of error or significance level as shown on table one.

Table 1: The sample population for the study

Cluster/zone	Target population	Sampled population
North	4,800	4800÷(1+4800(0.10)2=98
West	2,880	2880÷(1+2880(0.10)2=97
East	2,520	2520÷(1+2520(0.10)2=96
Total	10,200	291

Source: Field Study (2021)

Hence, out of the total population of 10,200 VSLA members, a sample size of 291 was taken. A simple random sampling technique was then adopted to select the members. Three community volunteers and three field supervisors of the VSLAs were also purposively

sampled for the study as key informants. In all, a total of 297 respondents were sampled for the study.

Questionnaires were used to collect the primary data. The researcher employed the services of the community contact persons (CCP) of the various communities in the district. This was to help administer the questionnaires and to interpret the questionnaire to respondents who could not read. The questionnaires were preferred due to the number of respondents and the limited time involved. The questionnaires were both closed and open-ended questions that allowed for the respondents to express their own opinion. For the qualitative data, two data collection tools were used: focus group discussions (FGDs) and key informant interviews.

The study setup three focus group discussions among leaders of the various VSLs groups in each of the three zones. One focus group discussion was held at the Abulu community in the west zone, another in Navio community in the north zone and the other in Kandiga community in the east zone. Each group was made up of a mixture of 10-15 married women and widows. The FGD guide comprised of key questions from the questionnaire. The essence of the FGDs was to cross-check the information gotten from the interviews and to allow respondents to explain some of the issues that were given restricted responses in the questionnaire.

Supervisors and community contact persons of the VSLA were interviewed in order to obtain information such as the operations of the VSLA schemes, criteria for group formations, interest rates on loans and other general information relevant for the research. There are three (3) field supervisors of the VSLAs in the district one for each zone. All these three field supervisors were interviewed and three community contact persons (CCP) were purposefully selected from each of the three zones for the interview. In all six (6) key informant interviews were conducted for the study.

In order to supplement the primary data, secondary data was sourced to help improve the quality of the discussions and provide explanations. Library and internet search were employed to reviewed relevant literature. Also, information from the attendance registers, savings booklets of members, records books of loan defaulters and savings registers of members were reviewed.

The data was analyzed using both qualitative and quantitative data analysis techniques. The quantitative data was coded, counted, grouped into tables and processed to provide frequency table, pie charts, histograms and bar charts using the Statistical Package for Social Sciences (SPSS) version 16.0). The qualitative were analyzed using descriptive statistics.

4.0 Key Findings and Discussions

4.1 The Effects of VSLA Model on Rural Women's Livelihood in the Kassena Nankana West District

The VSLA model has had some significant positive effects on women's livelihood among members of the VSLA in the Kassena Nankana West District. Hinson, Oduro and Cottrell (2017) concluded on the Care PROCOCO project in Southern Ghana that the VSLA model is changing the lives of the women. The authors noted that the VSLA model has moved the rural women from multiple situational problems, particularly financial problems. The authors also went on to mention that the model has given the women self-confidence to feel they are legitimate members of their households helping in the upkeep of the households. This is because, financially, they can meet their obligations in the households.

In the light of the above, because women have the ability to meet their household financial obligations, the posts are beginning to shift paving way for women to become part of the decision making processes and gaining recognition by their male counterparts. The authors also realized that overall, the women participated in Parents Teachers Association meetings, communal labour and community development meetings and continued to do so (Hinson, Oduro and Cottrell, 2017).

The respondents in this study indicated in line with the above. All (100%) of the respondents mentioned that they are able to meet their household financial obligations. They are also consulted when household decisions are taken and they are able to register with the National Health Insurance Scheme. They are also able to diversify their businesses as a result of the availability of startup capital. These all falls within the purview of Ritchie's (2007:56) findings that:

A variety of studies of the VS&LA program have indicated that members who operate small economic activities tend to keep their businesses in operation throughout the year, have a bigger say in household decisions, enjoy better nutrition, invest more in their children's education, and enjoy a higher social status than nonmembers. There is a significant increase in small household and livestock assets, usually those controlled by women. The loans given out by the groups tend to be used almost exclusively for income-generating activities, such as purchasing inventory for a small store, feeding livestock, and petty trade. The shared-out funds from the savings groups tend to be used primarily for food, clothing, school fees, and life-cycle events.

4.1.1 The VLSA Model and Women's Income Status

The respondents indicated their income earnings before joining the VSLAs. Their responses revealed that 41.2% earned between GH¢ 10-50 a month, 30.9 % earned between GH¢ 51-100 a month, 16.5% earned between GH¢101-150 a month, 7.2% earned between GH¢ 151-200 monthly, 3.4% earned between GH¢ 201-250 with only 0.7% who earned GH¢ 251 and above each month. After joining the VSLAs, the respondents indicated their income earnings. About 32.3% earned between GH¢ 201-250 a month, 27.5% earned between GH¢ 151-200 monthly, 19.2% earned between GH¢ 101-150, 10.3 % of the respondents earned between GH¢ 51-100 with only 5.2% who earned between GH¢ 10-50. In a focus group discussion, the women in the west zone stated that:

We were always in the house after the harvesting season, but after joining the VSLAs, we are able to take loan to start up a business which is giving us extra income.

In the north zone, the women mentioned that:

We were involved in small trades before joining the association. After joining the association, we were able to take a loan to expand our small businesses. Now, our income has increased and we have increased our savings with the group.

By implication, the VSLA model has improved the income status of the members. Members found that the VSLA model is useful as they could easily access credit to engage in more income generating activities to cater for their family needs. This is in line with Anyango's (2005) conclusions that the VSLA programme had helped to improve the incomes of its members and alleviated their poverty, particularly for women who constitute the majority in the VSLA groups. Table 2 shows the income levels of respondents before and after joining the VSLAs.

Table 2 Income levels of respondents before and after joining the VSLAs

levels of incomes	before joining VSLA		After join	ing VSLA
GH¢	Frequency	Percentage	Frequency	Percentage
10-50	120	41.2	15	5.2
51-100	90	30.9	30	10.3
101-150	48	16.5	56	19.2
151-200	21	7.2	80	27.5
201-250	10	3.4	94	32.3
251+	2	0.7	16	5.5
Total	291	100	291	100
Mean monthly income	GH¢7	8.56	GH¢	168.37

Source: Field Survey (2021).

From the table, it can be observed that the average monthly income of a member before joining the VSLA was GH¢ 78.56.but after joining the group, the average monthly income has increased from GH¢ 78.56 to GH¢ 168.37. This means that there is a significant increase in the income levels of the women after joining the group due to their ability to access loans to engage in business activities.

4.1.2 VSLA Model and Women's Social Status

The respondents indicated their social status before and after joining the VSLA in terms of their participation in decision making. Before joining the VSLA, 74.2% of the respondents did not take part in household decision making while 25.8% were of the opinion or agreed that they were consulted when taking household decisions. The respondents who were not involved in household decision making stated that their non-involvement in the household decision making was as a result of the argument that culturally, it was not acceptable for women to take part in decision making.

After joining the VSLA, all the respondents stated that they now take part in decision making at the household level. This is because, 45.4% indicated they could support the family financially by buying books and uniforms for the children without selling household assets, 31.0% indicated that, they were consulted because they could easily access credit to support

the family, while 23.6% indicated that, they were financially independent and could buy anything of their choice without depending on their husbands. All the respondents also said that their status in the community changed after joining the group because they are now allowed to participate in community development meetings.

This implies that the VSLA model has a significant positive effect on rural women's status because it improved their status from non-involvement in household and community level decision making to their involvement in household and community level decision making. This is in line with the work of Thorp and Heyer (2005) that group formation among the poor has great potential for enabling the members to achieve their livelihood goals. This is further supported by Hill (2011) that rural women's livelihoods can contribute immensely towards poverty reduction and women's economic empowerment as women become independent to generate their own income for sustaining their livelihoods. Hence, women's participation in the VSLAs led to their economic empowerment and financial independence which increases their participation in decision making.

4.1.3 The VSLA Model and Women's Health Status

The respondents indicated how they managed their health issues before and after joining the VSLA. Before joining the VSLA, 23.4% of the respondents stated that they buy their drugs from chemical shops when they fall sick. About 60.5% of them said they depended on traditional medicine to cure their sickness while 16.2% of the respondents borrow money from friends and relatives to take care of themselves when they fall sick.

However, after joining the VSLA, 74.9% of the respondents said they registered with the NHIS and so attend accredited healthcare centres when they fall sick. About 24.7% of the respondents stated that they used part of their savings to cater for themselves when they are sick. Only 0.3% of the respondents said they relied on local herbs for their healthcare delivery. Overall, all the respondents (100%) have indicated that their health status has improved since joining the VSLA. In a key informant interview with a supervisor, she stated that:

Before I joined this group, the health status of my family was very bad. But after joining this group, the health status of my family has improved greatly because all my family members have registered with the NHIS so we go to hospital any time a member falls sick.

4.2 Challenges Militating against the Smooth Operation of the VSLA in the Kassena Nankana District

The VSLAs in the Kassena Nankana District face some challenges that militate against their smooth operation. About 29.2% of the respondents mentioned that they have low savings. This has led to their inability to take huge loans to invest in profitable ventures. About 24.1% observed that the small size for the market of their products is also challenge. They could not make good sales within the week to generate profit due to low population in the villages where they operate. Moreover, 17.9% noted that failure by members to pay their loans within the stipulated time frame was another key challenge facing the operations of the VSLAs. The respondents further showed that 13.1% found it difficult to combine group activities with household chores as some were widows and for that matter they were single parents who had to combine the group activities with their parental responsibilities. In addition, 11.3% of the respondents lamented about their inability to make the weekly savings. This was related to their inability make enough sales that would generate them more profit during the week to

save.

All the respondents (100%) mentioned that all the above challenges are affecting the operation of their associations because of the lack of training or capacity building on how to manage their business, time and combine their personal responsibilities with their income generation actions. All the respondents therefore noted that their lack of training has triggered all the above challenges and hence, their urgent need for capacity building to boost their savings and profits. This is in line with the arguments by Busingye (2015) and Johnson (2004) that the VSLA model is saddled with some challenges despite its correlation with rural women's poverty reduction. The authors have noted that arguments against the VSLA state to the point that access to financial resources alone cannot solve all poverty reduction efforts geared towards women's empowerment if other factors are not tackled. Some of these factors can be attributed to women's own capabilities while others can be associated with the environment in which the women live.

5.0 Conclusion and Recommendations

The study concludes that the VSLA is a poverty alleviation model especially for women as it pulls financial resources together for women to access loans to engage in income generating activities which supports their livelihoods. Particularly, the VSLA model enabled women members to be able to meet their household financial obligations which boosted their ability to take part in household and community level decision making processes. It has also improved members access to healthcare through their ability to register with the NHIS and hence access to quality healthcare. However, the scheme is faced with a major challenge: lack of regular capacity building trainings for the VSLA members to boost their work. The study therefore, recommends that government through the Ministry of Gender, Children and Social Protection and District Assemblies should provide regular, timely and need-based capacity building trainings for members and link them with formal micro finance institutions that will help enhance their activities and policy makers should learn best practices from the existing VSLAs and incorporate them into existing national programmes that address rural women's livelihood issues.

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