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**COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH**  
**CSIR, Ghana**

**SOCIOECONOMIC STUDY: VIABLE INCOME GENERATING  
ACTIVITIES FOR WOMEN GROUPS IN THE GUSHEIGU-  
KARAGA DISTRICT OF THE NORTHERN REGION OF GHANA**

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# **SOCIOECONOMIC STUDY: VIABLE INCOME GENERATING ACTIVITIES FOR WOMEN GROUPS IN THE GUSHEIGU-KARAGA DISTRICT OF THE NORTHERN REGION OF GHANA**

## **1.0 Introduction**

The purpose of the study was to diagnose the needs and constraints for agricultural production and processing. It is also to identify prospects especially for the Production Support and Financial Services Programme. Focus group interviews were conducted in 9 communities namely, Kpali-Guma, Karaga, Yamo-Karaga, Monkula, Pishigu, Tuyini, Kutung, Sung and Sheililanyili using Participatory Rural Appraisal (PRA) techniques. All 11 groups were visited for the Participatory Rural Appraisal. There were two groups each in Karaga and Pishigu. The 11 groups form the core of the Tiyumtaba Women's Group, three of which were newly formed (appendix 1).

## **2.0 Methodology**

Data was collected from all the participating groups. Three out of the 11 groups were interviewed in a day. Participatory Rural Appraisal techniques were employed in the data collection. Check lists covering a broad range of subjects guided the group interviews. Emphasis was however placed on soybean, groundnuts and maize production and the processing of groundnut and soybean.

A multidisciplinary team of a sociologist, agric-economist, agronomists and a seed technologist undertook this survey in August 2002 and subsequently analysed the data to produce this report. The team was lead by Ms Esther Wahaga (sociologist) and included Haruna Abdulai, Douglas Busagri, Victor Clottey and Henry Akanko.

The data was analyzed mostly using descriptive statistics.

## **3.0 Results**

### **3.1 Social Structure of the Groups**

These groups are formally organised with executives. They are survived through regular meetings and monetary contributions from each member. A member pays an amount of ¢1000 a week. These contributions are used to help them attend their fellow member's outdoorings, funerals and weddings. Dagombas dominate the groups though other tribes exist in the district. Each group has a membership of about 10 to 15 women. The Gusheigu-Karaga district is dominantly a Moslem community and, so all members of the groups are Moslems. Any woman of the community has an equal chance of being a member of the group and membership is not limited to a specific class in the society.

Each member of the group cultivates an acre of soybean, which is ploughed for them by the Nucleus Farmer. He also gives them seed and gets a bag of soybean in return after harvest.

The groups consisted of married women who are between the ages of 30 and 55, with their household size having a mean of 15, a minimum of 10 and a maximum of 30 members.



Almost all the women are illiterate except for one in the Karaga groups who has attained post secondary education and two women in the Pishigu groups who have attained primary education.

### 3.2 Labour Use

Family, hired and exchange labour are the main source of farm labour in the study area. Family labour is the most preferred in the study area and it is used in all the farm operations particularly seeding/planting. Hired labour is mostly used in land preparation, planting and weeding, whilst exchange labour is used mostly for weeding and harvesting- especially groundnut. Family labour and exchange labour constitute the most important of all the sources of labour in the study area. Below is the pair-wise preference of the types of labour in the study area that was done during the survey.

**Table 1: Pair-wise Preference of Types of Labour in the Study Area, 2002**

|                        | <b>Exchange Labour</b> | <b>Hired Labour</b> | <b>Family Labour</b> |
|------------------------|------------------------|---------------------|----------------------|
| <b>Exchange Labour</b> | --                     | Exchange Labour     | Family Labour        |
| <b>Hired Labour</b>    | Exchange labour        | --                  | Family Labour        |
| <b>Family Labour</b>   | Family Labour          | Family Labour       | --                   |

Source: PRA Survey

### 3.3 Land Ownership and Cropping Systems

Land owned by the community is vested in the chief. Farm households control and cultivate communal land they have been farming which is handed down from generation to generation. Household heads allocate land to family members. The women acquire land through their husbands, brothers, fathers or uncles. Women do not control land in the study area but have access to it. A woman can have temporal or permanent control over land if, after the death of her husband, she is still living in the husband's (compound) household, and has no grown-up son to take full control.

Two types of farms exist in the study area, the compound farm, which is basically around the homestead, and the bush (distant) farm. Land degradation, declining soil fertility, low crop yields and the need for increased food production to meet food demands of growing population tends to shift efforts towards the extensive bush farming systems. However, compound farms continue to play important roles in the household food security being more fertile despite their dwindling sizes. Early maturing cereals as well as legumes are cropped on the compound farms to help bridge the hunger gap.

The cropping systems in the communities of the study area are similar. The main cereals grown are maize, sorghum and rice. The legumes mostly cultivated are groundnuts, cowpea and soybean. Except for soybean, which is a recent introduction, these other crops have been grown for well over 30 years.

The main cropping pattern on the farmer's field is relay intercropping. Maize and groundnut are intercropped with the exception of soybean and sometimes groundnut that are planted as sole crops.



The women in the Gusheigu-Karaga district take part in all the farm activities, namely: dibbling, planting, weeding, harvesting, threshing, packaging, transporting and processing. This is unique, as in other districts women do not take part in all of these cultural practices but rather in some.

### **3.4 Experiences of women with the target crops**

Most of the women had been cropping maize, groundnut, soybean and rice for the past 8 years the mean number of years being 5 with a minimum of 2 years. All the women grow maize, a staple crop and groundnut, a cash crop.

Groundnut grown by the women is used to supplement what they buy from the open market for used in their commercial food processing activities. While they sell some of the maize a greater proportion is used for household consumption.

Soybean is grown as a cash crop though some is used for household consumption. Soybean is often used to prepare tubani or gablei (a local dish), weaning meals and soy dawadawa (local condiment). The latter is an innovative way of making this condiment, which originally was made from Parkia (Locust bean) seeds now that the original raw material is not readily available. This is widely prepared in every household for both household consumption and sale. These days most of the dawadawa found on the market is soy dawadawa. The women from the Pishigu group told the survey team that personnel of an International Fund for Agricultural Development (IFAD) sponsored project taught them sometime ago.

Soy dawadawa is said to be very nutritious, all the women said they produce it for home consumption even though it could have been developed and promoted for marketing purposes. To make it more nutritious and appealing the women substitute about half the quantity of soybean to be used for making soy dawadawa with groundnut.

The women expressed their interest in getting knowledge on new developments in soy processing. They made mention of soymilk and soy oil processing, which they do not know the recipe.

Soybean, they said have very limited uses at the household level and as such few quantities are used and the rest sent to the market. This brought about the need of the women to advocate the development of its processing to enable them advance in to large scale processing to promote its wide spread use by the general public. The women have an opinion that an improved soy dawadawa processing and packaging could develop its market. They realized that with large scale dawadawa processing and promotion, there is no problem at their level but rather at the regional level.

Members of two of the new groups said they had never cultivated soybean and are making feverish preparations to do so this year (2002). The maximum number of years that a group had ever cultivated soybean was 4 years. It was noted that despite the communal group farms most of the women do have their personal soybean farms.

The minimum acreage of all the crops that the women cultivate is one acre, with groundnut being the most cultivated crop, followed by maize and soybean, which is just gaining popularity among them. Rice is not grown much by women as shown in table 2.



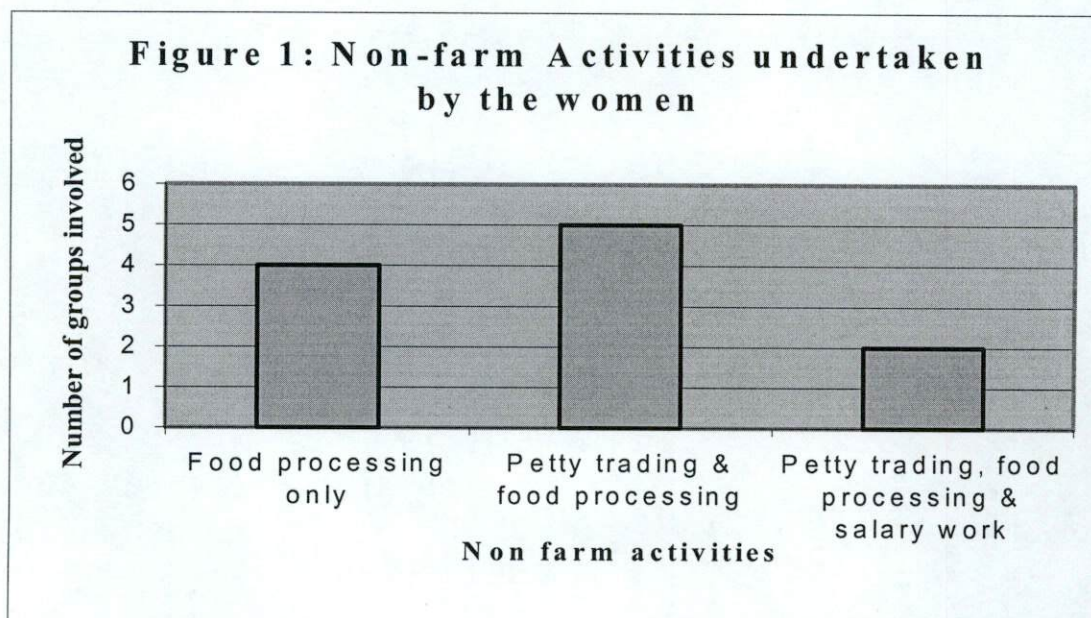
Apart from their farming activities the women are also into food processing and petty trading. Figure 1 below shows the various non-farm activities undertaken by members of the groups. From the figure, members of four of the groups are solely involved in commercial food processing.

**Table 2: Pair-wise ranking of crops by acreage cultivated by women, 2002**

|           | Maize     | Groundnut | Soybean   | Rice      | Total |
|-----------|-----------|-----------|-----------|-----------|-------|
| Maize     | --        | Groundnut | Maize     | Maize     | 2     |
| Groundnut | Groundnut | --        | Groundnut | Groundnut | 3     |
| Soybean   | Maize     | Groundnut | --        | Soybean   | 1     |
| Rice      | Maize     | Groundnut | Soybean   | --        | 0     |

Source: PRA Survey

These groups are Kutung, Tunayili, Sung and Monkola. Another five (Pishigu 1&2, Yamokaraga, Kpali-Guma and Sheililanyili) were into both commercial food processing and petty trading whiles the members of the remaining 2 groups (Karaga 1&2) were into food processing and petty trading with just one member being a salaried worker though she is also involved in food processing and petty trading.



The food processing activities they are involved in include sheanut, dawadawa, groundnut and rice processing. Almost all the groups are into sheanut and groundnut processing, using their indigenous methods of processing, though some had heard of the oil extractors/press they do not use them.

All the women use a greater part of their farm produce in their commercial processing activities and only an amount of between 10% and 20% is used for household consumption. Of course, the quantities of their farm produce are not sufficient so they supplement their raw material base by buying more from the market.



Shea butter (*Butyrospermum parkii*) is a fatty acid triglyceride whose substance presents no health or environmental hazard if handled well and properly used. It is considered non-toxic and of edible quality and not dangerous when inhaling but may cause irritation when it comes to contact with the eye. No vapour appears at normal working temperatures. Shea butter solidifies and so must be kept away from heat in storage or under transportation conditions. Storage can best be done in coated steel drums, dark plastic containers and dark glasses. It becomes solid at 20°C, ivory in color and has a smell that is characteristic of the method of processing used. It has a melting point of about 29 to 34°C and is insoluble in water.

Sheanut has 50% of oil when tested at the laboratory. When processed with very good equipment like the Muller extractor from Germany or the Ross down from Britain, one can be able to extract about 40% butter as a result of spillage and sludge. When shea nuts are parboiled it has more butter in the case of Ghana nuts as compared to Burkina nuts that has 35% butter when processed.

In oil processing 5% of oil is constantly lost before milling begins, spillage and sludge also results in the loss of another 5% hence the reason for which Ghana nuts has 40% butter. When using the Muller extractor, double extraction is done; the first extraction gives 35% of oil, the other extraction methods has long processes that results in more losses of the butter.



*The shea nut tree is a very important economic tree in Northern Ghana and so much care is taken of it. These trees grow in abundance. They are not planted but are found growing naturally in woods. None of the shea trees on a field is cut down when a person is clearing to make a new farm. Its product -the shea nut is of value through out the year. It is a major source of income through out the year. During the off season most of the rural women go into the shea nut processing business, after gathering the shea fruits during the rainy season. When the shea nuts are picked, some are sold instantly that is after the back of the nuts are crushed off and parboiled, they are also processed or stored for processing during the off season. Apart from shea nut that were picked in the country, some are imported from Burkina Faso to enable its processing through out the year due to high demand for it. The butter produced from it besides the advantage of it keeping the whole year without salt, is whiter, firmer, and of rich flavour. The growth and preparation of this commodity seem to be among the first object of African industry and it constitutes a main article of the inland commerce. It could be sold processed or unprocessed. Every person has access to shea fruits but it is mostly females who go to pick them. Shea nuts or shea butter is also exported through some few NGOs (Non Governmental Organisations) though their activities do not cover every district or village in Northern Ghana.*

Bad nuts do not make very good oil, first of all the butter content in them is small and secondly difficult to extract. In using the processing machine one can talk about quality in terms of the actual natural colour of the butter, the taste and the scent. This improved means of processing shea butter is faster, has a higher output, and is of good quality and time saving. Sheanuts used for making sheanut butter is got from the wild. This can also be purchased from the market.

Customers come to buy their processed produce from within and without the villages/towns, the regional capital and other regions such as Volta, Brong Ahafo and Upper East Regions. The central place for the sale of their products is Gusheigu market though they also sell in their various villages/towns markets. Mostly individuals come to purchase their produce either for consumption or for retail.

The unit measure of groundnut oil on the markets is a 0.8 liter bottle sold at ₵5000 (\$0.625). Shea butter is sold in ball-shaped moulds or in calabashes, soy dawadawa is also sold in ball-shaped moulds and rice in bowls or sacks. The market price for 100 g of shea butter is ₵200 (\$0.025) whilst 150 g of soy dawadawa cost ₵1000 (\$0.125). Selling on local market into small quantity is not profitable for women.

**Table 3. Processing time and selling price of shea butter.**

| Type of Industry    | Quantity processed | Man power (md or hour) | Output        | Selling Price         | Price of a bag of Shea nuts |
|---------------------|--------------------|------------------------|---------------|-----------------------|-----------------------------|
| (Local) Small scale | 1 bag (90 kg)      | 6                      | 2 cal (20 kg) | ₵120,000/Cal of 10 Kg | ₵200,000                    |
| Medium Scale        | 1 bag (90 kg)      | 2.5 in 2 days          | 25 kg         |                       |                             |
| Medium Scale        | 1 bag (90 kg)      | 1.75 in 2 days         | 30 kg         | ₵10,000/Kg            | ₵200,000                    |
| Large Scale         | 1 bag (90 kg)      | 44 minutes             | 40 kg         | ?                     | ?                           |
| (Local) Small scale |                    |                        | 100 g         | ₵200                  | ₵200,000                    |



Table 3 above depicts the fact that the more efficient the technology the more the quantity of butter that could be extracted. In an interview with women's groups that are involved in processing sheanuts using improved technology, they said they extract about 30kg of butter from a bag of sheanuts (90 kg) depending on the origin of the nuts. At the ITTU-GRATIS it was revealed that an average of 25 kg of butter could be extracted from a bag of 90 kg of shea nuts (28%). In an interview with one of the workers at BOSBEL (an oil mill in Tamale) it was noted that a bag of shea nuts of 90 kg results in 40 kg of butter (44%) where as the local processing method could yield 20 kg of butter; 50% lower than industrial one. With the improved technology, the distinguishing factor is the time used in processing hence a greater turn over and profitability.

From the table, one would realize that it is profitable to sell shea butter in bulk rather than in small moulds.

**Table 4: Sheabutter Output from different production scales and bulk selling price**

| Type of Industry                 | Output from 90 kg of sheanut | Processing rate | Bulk Sales of Output (cedis) |
|----------------------------------|------------------------------|-----------------|------------------------------|
| Large Scale                      | 40 kg                        | 44%             | 400,000                      |
| Medium Scale                     | 30 kg                        | 33%             | 300,000                      |
| Medium Scale                     | 25 kg                        | 28%             | 250,000                      |
| Small Scale (traditional method) | 20 kg                        | 22%             | 200,000                      |





The above table shows that with the local fabrication, the women make nothing out of their production if 1 kg of butter is to be sold at ¢10,000. However in the local market setting a profit of about ¢40,000 from processing and selling 90 kg of nuts would be made. The selling price of ¢10,000/kg was gotten from Christian Mothers' shea nut processing group. From the above table, it makes sense to support the rural folk to have improved machinery for processing shea butter to help them sustain their livelihoods.

The women who are into processing activities are able to sell out all their produce and are optimistic that they would be able to sell out should they increase productivity. It is worthwhile undertaking processing activities they noted.



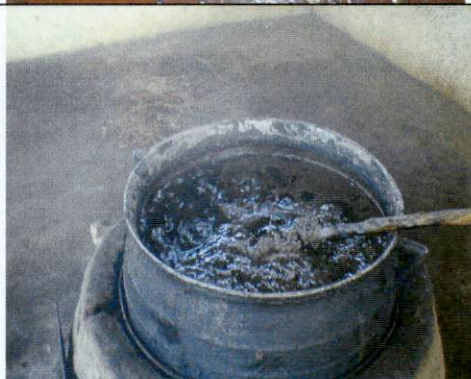

A pound of African shea butter is sold in the United States of America at \$9.99 at Good scent and soaps (Internet files 2002).



**Plates 1-12: Steps in local fabrication of shea butter**

|   |   |  |
|---|---|--|
| 1 | Sorting and picking the sheanut ...   |    |
| 2 | Wash the nuts and leave to dry...   |  |
| 3 | Pound roughly sheanuts in a mortar...                                       |   |
| 4 | ...until crashed into small pieces but not in powder                        |  |
| 5 | Roast the sheanuts over fire until dark chocolate colour and shiny and oily |  |



|    |   |  |
|----|---|--|
| 6  | Pound again in mortar...  |    |
| 7  | ...to be like chocolate dark sludge   |    |
| 11 | The mixture lightens as the butter begins to appear. Add cold water in greater quantities. The butter coagulates and rises to the surface |   |
| 12 | Remove the gray mass out of the water, and heat over a fire. Skim off the white foam. The butter will be left at the bottom.              |  |

### 3.5 Household Division of Labour in commercial agro processing activities

All members of the household participate actively in farming and processing activities in varying degrees when the enterprise belongs communally to them. The boys assist the men in land preparation, whilst women and girls do threshing and winnowing of the raw materials. However, when a farm belongs to a woman, she does all of the operations assisted by her fellow women on exchange labour basis. She supplements this labor source with hired labour if it is not enough. All processing activities are done by using family labor- mostly women and girls, the male folks only assist in the acquisition of fuel wood some of which is used for



household cooking. Table 3 shows the division of labour on household farms and processing activities in the district.

**Table 5: Household Division of Labour in Crop Production and Processing Activities**

| Activity               | Women | Men | Girls | Boys |
|------------------------|-------|-----|-------|------|
| Land preparation       |       |     | --    |      |
| Planting               |       | --  |       | --   |
| Fertilizer Application |       |     |       |      |
| Weeding                |       |     | --    |      |
| Harvesting             |       |     |       |      |
| Threshing              |       | --  |       | --   |
| Winnowing              |       | --  |       | --   |
| Haulage                |       |     |       |      |
| Storage                |       |     |       | --   |
| Fuel                   |       |     |       |      |
| Processing             |       | --  |       | --   |
| Marketing              |       | --  |       | --   |

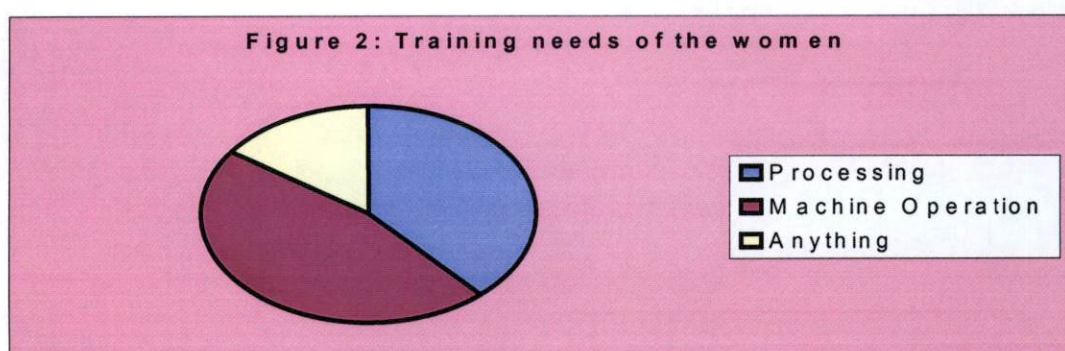
Source: PRA Survey

### 3.6 Needs Assessment

When asked the sort of machines they would need, the women asked for the extractor and the thresher. Eighty-eight point nine percent (88.9%) needed the oil extractor and the remaining 11.1% the thresher. All the groups said they needed training on machines.

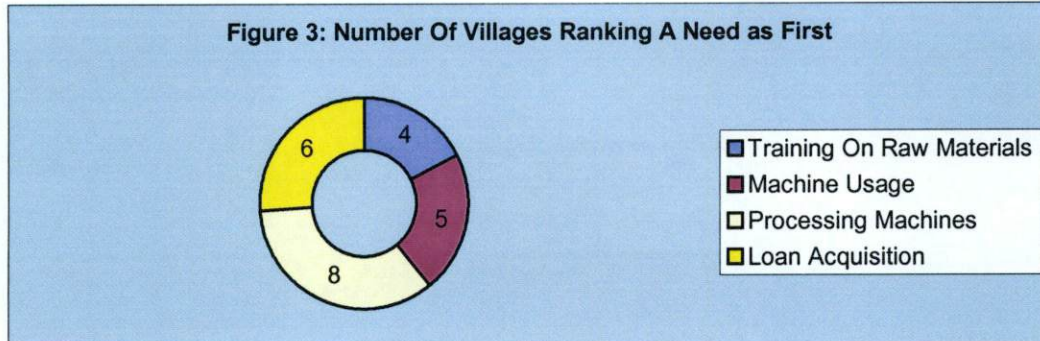
Sixty six point seven percent (66.7%) had heard of the use of oil extractors though they had never seen it. In order for them to improve on their activities 44.4%, 22.2% and 22.2% said they needed an oil extractor, training in agro-processing methods and loans to purchase additional raw materials for processing respectively, where as 11.1% asked for loans for unspecified activities.

On their specific training needs, 54.4% said they would need training on how to operate oil extractors, 45.5% asked for training on processing of their raw materials where as 18.2% were faced with indecision but were ready for any form of training available (figure 2).





All the groups were asked to prioritize their general needs, which were the following four: training on processing methods of raw materials, training on machine usage, provision of processing machines and loans acquisition. Each village/group was asked to rank a need as first or otherwise. Each of the 4 general needs mentioned was proposed to them separately. Below is the outcome in figure 3.



Out of the eleven (11) groups 8 ranked the purchase of processing machines as first when it was proposed, while 3 did not. When each of the needs were proposed and ranked, the need for processing machines was ranked first by most groups. This was followed by loan acquisition (6 groups) then training on machine usage (5 groups), whilst training on processing methods of raw materials (4 groups) was ranked 4<sup>th</sup> this because the women already have ways of processing these materials and would need the other 3 needs to facilitate their activities.

From the results, all the groups ranked two or more of the 4 needs as their topmost. The high rank of having processing machines and credit source by the women give credit to some of the specific objectives of the PSAFS programme.

Lack of inputs such as fertilizer, seed and tractor services were also mentioned as constraints of 77.8% of the respondents while 22.2% mentioned availability of portable water.

#### 4.0 Conclusion and Recommendation

From the survey it was realized that the women are mostly into groundnut and shea nut processing, and would need support in terms of oil extractors, loans and training on processing.

It was also realized that soybean which is a new introduction and catching up with the other crops needs more attention. There is a lot that soybean can be used for yet people do not seem to attach the same degree of importance to soybean as compared to groundnut production. Even though some of the women asked for threshers more need to be done. Training on the cultural practices of soybean production must be embarked on especially for the two new groups who are growing the crop for the first time in 2002.

Besides this it would be very prudent for a lot of activities to be undertaken to “uplift” the importance of soybean among the women. We recommend product development from soybeans and improvement on the packaging of their processed products especially the soy dawadawa. This will go a long way to change the present perception of the women that soybean is to be cultivated and sold mostly in its raw form (grains). Such an approach of value addition to the crop by expanding the cottage industrial based of the women group will



bring them more income, give them a better control over market prices and in the long run alleviate their poverty.

Trading forms part of the non-farm activities of most of the women. This makes training on business skills a very important capacity building activity that we recommend for the groups.

Finally, we found out that members of the groups use their dues mainly for welfare purposes. Much as the creation of a welfare fund for the social aspects of members should not be down played, funds of the groups should mainly be re-invested into capital investments of their income generating activities. This should form one of the goals of the business skills training programme.



Appendix 1: Locations of the women groups in Gusheigu-Karaga district and currency exchange rate during the survey period.

|               |  |
|---------------|--|
| 1. New Groups | Kpali-Guma<br>Yamo-Karaga<br>Monkula                           |
| 2. Old Groups | Karaga<br>Pishigu<br>Tuyini<br>Kutung<br>Sung<br>Sheililanyili |

Currency exchange rate (during the survey period) \$1 = c8,00

Good scents and soaps- Internet files 2002

Information on Shea Butter processing is by kind courtesy of Christian Mothers Shea Butter processing Association, ITTU (Information and Technology Transfer Unit) and Bosbel----







### Economic Activities

18. Apart from farming what other activities do you do to earn money? 0= Nothing 1= Petty trading 2= Worker (earning monthly salary) 3= Carving 4= Food processing 5= Other, specify.....
19. What processing activities do you undertake?.....
20. What skills do you have in undertaking these activities?.....
21. Have you ever had any support either financial or in kind to undertake these activities? 0= No 1= Yes
22. Have you ever had any training to enable you process your raw materials in a better or faster way? 0= No 1= Yes
23. If yes, what sort of training was it?.....
24. Do you use your farm produce in your processing activities? 0= No 1= Yes
25. If yes, what quantities do you use to process for the market and for home consumption?  
For the market.....  
For home consumption.....
26. If no, where do you get your raw materials from.....
27. Who purchase your processed materials?.....
28. Where do they come from?.....
29. In what units do customers buy your processed goods? 1= Bowls 2= Baskets 3= Balls (moulds) 4= Singles 5= Other
29. In your opinion do you think your customers buy the produce for their home use or for retail? 1= Home use 2= Retail 3= Both home use and retail
30. Are you able to sell out all your processed goods? 0= No 1= Yes
31. If no, why?.....
32. In your opinion do you think these activities are worthwhile? 0= No 1= Yes
33. If you have the opportunity/ability to process more of your produce would you be able to sell them all out? 0= No 1= Yes
34. What better skills have you heard of but not using in your activities?
35. Why are you not using them?



36. What are your needs in the processing activities?.....
37. What sort of training would you need in your processing activities?.....
38. What sort of machines would you need in order to process your raw materials better and faster?.....
39. What sort of training do you think you would need to put these machines to good use?.....
40. Choose in order of importance the type of assistance you require from the table below

| Number | Type of Assistance                         | Rank |
|--------|--|------|
| 1.     | Training on processing of raw materials    |      |
| 2.     | Training on the use of processing machines |      |
| 3.     | Machines for processing                    |      |
| 4.     | Loans                                      |      |

- **Make the women to rank the types of labour in the community in order of importance**
- Make women to help you determine the household division of labour in terms of crop production and processing activities (ask in relation to women, men, girls and boys)
  1. Land preparation
  2. Planting
  3. Fertilizer Application
  4. Weeding
  5. Harvesting
  6. Threshing
  7. Winnowing
  8. Haulage
  9. Storage
  10. Fuel
  11. Processing
  12. Marketing



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# SOCIOECONOMIC STUDY: VIABLE INCOME GENERATING ACTIVITIES FOR WOMEN GROUPS IN THE SUSHEISU KARAGA DISTRICT OF THE NORTHERN REGION OF GHANA

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