# The use of technology by women gari producers in Bamunkumbit village, Northwest Region of Cameroon

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## ABSTRACT

Cassava is one of the main starchy staple foods in Cameroon with 80% of rural and urban households consuming it and its other derivatives daily. The increase in demand for this tuber and its proceeds has led to increased prices because of high demand and consequently leading to an increase in production exceeding the previous traditional subsistence systems. Women rely mostly on traditional techniques to produce one of its by-products known as gari. This study focuses on the adoption of Agricultural Technology Transfer by women gari producers in Bamunkumbit North West Region of Cameroon and the efficiency of the adoption of the new technology. The factors identified as having direct impact on women producers towards adoption of appropriate technology are educational level, marital status, and access to funding for production. Data was collected with the use of questionnaire, and focus group discussion (FGD) guides. Results indicate that most rural women are eager to adopt improved technology but are hindered by their level of education and the absence of farm to market roads which is a general problem affecting the country. It is equally obvious from the results that no modern technology could be adopted except through the valorization of the existing technological approaches.

**Keywords:** cassava, processing, technology, women, transfer, gari

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**Introduction**

The North West Region is one of the localities in Cameroon where agriculture is prominent with a high concentration of crop farmers. The cropping pattern in this region is entirely under peasant control with a variety of crops such as maize *(Zeamays*), beans (*Phaselus vulgaris*), yams (*Dioscorea*), cocoyam (*Colocasia esculenta*), cassava (*Manihot esculenta Crants*), guinea corn (*Sorghum bicolor*), groundnut (*Arachis hypogaea*), potatoes (*Solanum tuberosum*) and coffee grown. The major growing period which is from March to September coincides with the rainy season. However, some of the food crops cited above are stable food items for most localities in the region. In addition to serving nutritional needs, food is an important factor in cultural identity and can reveal relationships between the past and the present, reflect epochal transformation, and hence marking changing identities for various groups of people through new ways of appropriations (Chan, 2010). Developing research in the context of food systems therefore helps to identify and integrate the links between a number of activities "*from plough to plate*" (Atkins and Bowler, 2001), including production, harvesting, storage, processing, distribution and consumption. For instance in a locality where cassava and its related products is a stable meal, all technology adopted is directed towards better production and processing of the different associated products. Nevertheless, technologies hitherto considered as modern which are today moving behind the recent technological advancement are still being used by farmers in this locality for the production of gari.

The small holder producers despite their unique and pivotal position, belong to the poorest segment of the population and therefore, cannot invest much on their farms. Thus increase in poverty among these farmers has led to an unimpressive performance of the agricultural sector (Ajibefun, 2002). As World Bank, (1996) asserts, per capita food production has not been able to keep pace with a rapidly expanding demand for food, hence making countries in the region to become increasingly dependent on commercial imports and food aid.

Cassava (*Manihot esculenta Crants*) which provides several opportunities for poverty alleviation is a perennial, vegetatively propagated shrub grown throughout the lowland tropics. The area of our study which is equally found in the lowland areas of Cameroon has cassava as the main crop. Fresh cassava which contains about 62 % to 65 % moisture is highly perishable and has a storage life of less than 48 hours (Oyerinde and Olalusi, 2011). Therefore, the need for an effective processing technology for gari production is to reduce the life span of the product (*gari*)

to reduce perishability, to increase sustainable food security in the area in particular and the country in general.

Cassava stores its harvestable portion underground until needed and therefore is a classic food security crop. These attributes combined with other socio-economic considerations are reasons for International Fund for Agricultural Development (IFAD)'s recognition of this crop that lent itself to a commodity-based approach to poverty alleviation (FAO, 1995). It is an important food crop worldwide, especially in Africa, Asia, and Latin America. It is one of the highest-producing crops in terms of carbohydrate per hectare, even though one of the lowest in terms of protein per hectare. Current trends in agricultural production reveal a global shift from conventional farming with the use of chemical inputs to organic farming which use environmentally friendly inputs. Cassava needs none of these inputs and hence, can be cultivated even by poor farmers. The crop can be grown in low-fertility soils and hence needs little inputs for its production.

Agricultural technology is an important aspect of food security as it directly affects household socio-economic well-being, agricultural productivity as well as facilitating the attainment of one of the major objectives of the Millennium Development Goals. However, in Cameroon agricultural technology is still at its initial stage especially in the rural areas where farmers are heavily involved in agricultural activities. Many households in rural Cameroon lack access to decent meals guaranteeing basic dietary balance and healthy life despite numerous and decisive calls to end hunger. The main cause of this situation is the rising food prices, the new scramble for land by multinationals, high importation of food, and rising cost of living without a corresponding rise in income and food production. Helping farming households who are equally consumers to increase access to food remains a huge challenge to most development actors. (Compton, *et al.,* 2010). Besides, neighbouring countries like Nigeria, Equatorial Guinea, and Gabon also depend on food supply from Cameroon. This has led to an increase in prices and acute food shortages in terms of demand. This alone has an impact on the production rate of food products like gari and associated products.

In the production of gari, peeled cassava roots are grated after washing. This Grating is manually done on a metal instrument known as a grater even though few individuals use modern machines for gari production. The traditional method with the use of a metal grater has been criticized as grossly inadequate, inefficient, labourious, time consuming and can only be done for

gari production on a very small scale (Odigbo, 1979, Ikpi *et al.*, 1986). Though the modern method of gari production is gradually being integrated, it is still very expensive for the average rural dweller in the area to acquire the adequate technology either because of inaccessibility to loans or funding or because of the poverty level of the population. Cassava transformation to gari through the use of appropriate technology could spur rural development, and hence, raise incomes for producers, processors and traders. This could contribute to national food security, by the transformation of cassava a principally subsistent food crop to an industrial crop for export trade. One of the approaches to achieve this goal could be the ability to have a document or a manual that addresses cassava product standards in terms of production, processing, storage and distribution. Though much research has been done on cassava processing, little is known in the area concerning adopted technology use in production by gari producers in Cameroon in general and Bamunkumbit in particular. This study is thus out to investigate the adoption of a technology involved in gari production and its influence on the socioeconomic wellbeing of women producers in the area under study. We are hypothesizing that the level of this technology adoption has left farmers with no option but to produce cassava on a low scale mainly for subsistence and for the local markets. Hence we are analyzing the constraints involved in the improvement of agricultural technology transfer adoption by the local people in the transformation of cassava to gari in Bamunkumbit and the economic and socio-cultural importance of this gari production to the population. We are therefore, analyzing the main factor that influences women gari producers to adopt the modern technology in gari production in Bamunkumbit. The following specific questions are addressed in this study:

1. How efficient is the adoption of new technology in gari production?
2. How has the new gari technology been diffused in the study area?
3. What is the ability of the local population to maintain the machines which are key components of this technology?
4. What conditions could favour strategies to expand the utilization of this new gari processing technology?

There is no general agreement on what constitutes technology or how technology should be defined. The United Nations, has adopted a very broad view of technology, referring to it as "*a combination of equipment and knowledge*". According to Kumar *et al.*, (1999) technology consists of two primary components: a physical component which comprises of items

such as products, tooling, equipment, blueprints, techniques, and processes; and the informational component which consists of technical know-how in management, marketing, production, quality control, reliability, skilled labour and functional areas.

Technology change in agriculture began at least 10,000 years ago when the first cultivation selected wild plants which were experimented with different growing environments (Egwu, 2003). Earlier in civilization, the technical performance of agriculture in the great civilization remained roughly equivalent for centuries until the middle of the nineteenth century, where principally in Europe and North America, we saw the introduction of new machinery into agricultural activities. The spread and improvement in agricultural technologies has since then been very impressive, particularly in improved "modern varieties" (MVS) of grains. In 1990 modern varieties (MVS) represented an estimated 75% of Rice, 70% wheat and 57% of the maize growth in the developing world. Although these figures reflected part in the Green Revolution package of seed, fertilizer, irrigation a substantial proportion of these MVS was grown with low or no external inputs (Byerlee & Lopez, 1994). The story is not just confined to cereals or to the development of yield maximizing varieties alone, new technologies have also been developed for non- cereals and many MVS have been developed principally for their resistance to pests and diseases in other areas outside cereals. A very good example is the improved cassava varieties which spread rapidly in part of west Africa (Nweke & Akorhe, 2002). The research undertaken in Nigeria in the 1970 was fundamentally for the development of cassava resistant to mosaic virus (Otim, 2000).

Many researchers consider technology transfer as the transmission of technical know-how to suit local conditions, with effective absorption and diffusion both within and across the localities (Chung, 2001; Kanyak, 1985). Other researchers like Baranson (1970) defines technology transfer as the transmission of technical know-how (knowledge) which enables the recipient enterprise to manufacture a particular product or provide a specific service. This technology transfer concept does not only concern the transfer of technological knowledge or information but also the recipient's capability to learn and absorb technology into the production function (Maskus, 2003).

The food and agriculture sector lies at the heart of the development process and is both a main cause of, and solution to, the world's environmental (climate) and social ( unsatisfied basic needs) problems. Coping with the spreading global crisis requires focusing on

small-scale food producers as a driving force towards socially fair and ecologically sustainable agriculture systems.

Gari as one of the solutions to food problems is a partially gelatinized (by toasting), free-flowing granular flour with a slightly fermented flavor and a sour taste. In West Africa, it is the most consumed and traded of all food products made from cassava roots. It is consumed either soaked in cold water or stirred in boiling water to make a stiff paste and consumed with any choice of soup. This granular flour known as gari can be yellow (if fortified with red palm oil) or white, although gari from bio-fortified cassava is gaining popularity now. Seventy percent (70%) of cassava processed as human food is gari (Oduro *et. al.,* 2000). Its wide consumption rate is attributed to its relatively long shelf life and its easy preparation as a meal.

Technology is assumed to mean a new, scientifically derived, and often complex input supplied to farmers by organizations with deep technical expertise. Neill and Lee (2001) assert that the majority of existing literature on agricultural technology adoption is focused on Green Revolution (GR) technologies such as irrigation, fertilizer use, and the adoption patterns of high-yield variety (HYV) seeds. Due to the development process of HYV and the inputs required to make them productive, studies examining HYV adoption look at very advanced forms of technology. However failure in the adoption of the technology may result from sociocultural barriers which hinder perception. Because so many studies of agricultural technology adoption and diffusion focus on HYV and other GR inputs, their findings are concentrated on a "high-technology" definition of agricultural technology.

**THE STUDY SITE AND METHODOLOGY**

This study was conducted specifically in Bamunkumbit in Ngoketunjia Division of the Northwest region of Cameroon. The choice of this locality was based on the fact that it is one of the areas where gari is mainly produced in the Balikumbat sub division in particular and in the Northwest region of Cameroon in general. Favourable condition such as moderate temperatures enables the people of this locality to be involved in rice cultivation but also in cassava cultivation as a raw material for gari production as well.

Bamunkumbit is located in the Ndop plain some 46km away from Bamenda in the North West Region of Cameroon. It has a population of about 7 300 inhabitants including 4,500 in the village of the study (1987 Cameroon census).This locality has fertile farmlands for the cultivation of a wide variety of crops such as beans, groundnuts, palm nuts and eucalyptus trees which provide

timber for roofing including abundant marshlands for the cultivation of rice and other season vegetables. The soils are gradually being modified by some circumstances like weathering, human activities (farming, construction and burning). Notwithstanding the highland range which extends from the Bamboutos through Santa and Bambuluwe the area is blessed with volcanic activities. The area has rich volcanic soils favourable for agriculture.

The area of study was selected based on the fact that most women there are involved in the informal food processing industry, particularly in gari production. In the area (Bamunkumbit) there is a preponderance of women in the local cassava transformation industry.The targeted population is the women gari producers out of which a purposeful sample of 150 respondents were selected and interviewed. The instruments used for the collection of data for the study include:

Questionnaire which was used mainly for the collection of primary data through face to face interaction and focus group discussion guides under which facilitated data collection was done, including interviews, and participatory rural appraisal. During the questionnaire administration, observations were also done and the interview guide was used to collect more qualitative data.

**GARI PROCESSING, A LIVELIHOOD STRATEGY IN BAMUNKUMBIT NORTHWEST CAMEROON**

From the gender perspective 83.9% of those involved in gari processing are female while 16.1% are male. This shows that women are the main producers of gari. This justify the observation from the field which indicates that men are mostly involved at the level of cassava cultivation while women are committed to produce, process and market the gari. In terms of motivation 85% of the actors are femalewhile 15% are male. Therefore women are easily motivated by the new technology than the men.This is affirmed by previous results by Juma, (2011) who states that in Africa for instance women represent 80% of agricultural producers and account for half the agricultural output. The main income generating and food production activities for women are cassava farming, processing and marketing of farm produce. In our study area cassava is viewed as a good cash crop by many women, because the demand for traditional cassava foods is high. Men are more involved in cultivation and less on processing and marketing.

In terms of farm labour, men have little time for land preparation, but own most of the land while women have a more prominent role in post-harvest activities. Goheen (1994) and Manu (2007) assert in the same line that in the Grass field region of Cameroon, men own the land while the women are major producers. Generally, women have heavier workloads than men, including

farm work, marketing, household chores and casual labouring. This is again affirmed by (Bisseleua H. S. *et al.,* 2008), who state that closing the gender gap in agriculture is vital for economic growth and poverty reduction especially in the rural households in Cameroon.

From the results obtained, persons above 60 are very scarce in the activity (less than 1%). This is due mainly to the fact that this activity requires physical strength which is not obvious for people above 60 years old. Nevertheless, 4.2% of youths are involved in the activity. However, most of the people involved in this activity are mostly those of the age group between 41-60years old. This is the active age group meanwhile the youths and the aged are less involved in the activity. This indicates that the majority of the people in the study area are active adults. It should be noted that this is the group which has a great human and financial asset in the rural areas. They are those who own the major portions of arable land. The non-involvement of the youths in this activity is accounted for by the phenomenon of rural urban migration or rural exodus.

The level of education of the farmers is an important factor for involvement in this activity. From the results 45% of the actors have only attended the primary school level and therefore have the first school living certificate. This is an indication that the activity does not require much education. For instance 12.7% of primary school drop outs with 18.3% of those with no formal education are actors. Since those having the primary school level outnumber those with no formal education, it is easier to build their capacity on modern technology which corresponds with Ruth *et al.,* (2008 ) who think that most women in the study area had very low levels of formal education. From this assertion, training and technical support will be necessary to facilitate participation in the technological transfer.

The adoption of any technology to enhance production is related to the household sizes of the different actors especially when production is principally for consumption. This in effect implies that the number of persons in each household also influences the adoption of technology for the processing of gari. Results indicate that 57.3% of the actors are living with 4 and 7 persons in each household while 35% of them live with at least eight persons per household. Since the activity is labour intensive, the number of persons in each household consequently influence the rate of adoption of the technology for gari processing. Despite the labour intensive nature of this activity, funds generated from the sales are not enough to pay for extra labour. Thus, the activity requires a technology that will compensate the demand for labour so as to increase profit. It is prestigious for the crop farmers to have many children so as to cultivate much and on vast land

during farming seasons but it is also a problem because the larger the family, the higher the incidence of poverty.

Farming is done in most rural households by families which signifies that the unit of production is the farm family. However, families are of different categories including single headed households, male headed households and polygamous homes. Examining the marital status of those involved in gari processing through technological adoption in this area, the following results were obtained: 63.38% are married which implies that this activity is contributing to the livelihood of the family in terms of food and income; 18.3% are divorced while 11.3% are single. It is worth noting to point out the fact that this activity attracts responsible persons and thus its importance for the society. Married women (63.4%), who are also more involved in gari production activities are highly motivated by the technology, followed by the widows 18.3%. This means that the level of adoption of agricultural technology transfer in gari activities is very high among the married women and the widows as compared to the single and widowers who are less involved in gari production. The above results indicate that marriage is a very important institution among the people of the study area becausecoming together in a marriage union fosters agricultural production including gari processing for rural farm families.

The main occupation or profession of actors equally influence the rate at which they adopt the technology for the processing of gari in the zone of study. It should equally be noted that as a rural area farming activities are not only in the cassava production. This explains why, 89.5% those involved are farmers not only planting cassava but other crops. Gari production is therefore not the main activity of the population. It is the full time farmers who are highly motivated by the modern technology because it eases their production and reduces labour. Those who are not involved in agriculture as a full time activity are not interested in it. It is also worth mentioning that the full time farmers (89.5%) are more aware of the technology than the rest of the actors.

This agrees with (Maxwell, 2001), who thinks that 70% of sub-Saharan Africa's labour force and 67% of south Asians work in agriculture or are employed by agriculture. However, the periods of awareness for this technology are different according to the different involvements in agricultural production and era. For instance in the 1980 just 1.4% heard about the modern technology. Around the 1990 the number of people who became aware of the technology in gari production was gradually increasing. The period after 1990 was a boom in awareness where almost everybody became aware of the technology.

Looking at the means of acquiring the machines for gari processing,21.68% acquire their machines by personal savings, 35.66% acquire through farming groups while those who acquire with loans from *njangi* groups are 6.99%, and 35.66%are without machines. Those who acquire their machines through personal savings have quick asses to the machine than those who acquire theirs through grants from farming groups. Also, the percentage of farmers who do not have a machine is equally very high. The fact that actors do not have a machine does not imply that they do not use the machine. Most of them always hire a machine which is a table to their homes for grating.

Besides the need expressed by the population not everybody adopts this modern technology, because 60% of the actors are still using the manual method to grater their cassava roots as well. The inability to acquire the tools for this technology by the different actors is deliberate because some do not want to use the tools. Peasant logics often account for the rejection of most innovations in rural areas. They believe that gari produced in the machines is not good for consumption and prefer what they produce manually. It is equally believed that modern machines do not usually grater the cassava well and that it breaks the cassava roots into pieces which are not ready for consumption. However, the hand method is associated with a lot of unhygienic conditions. Women processing gari often incur burns sometimes because of the direct heat from the fireside and the resulting smoke which bring about constant running nostrils or common colds. Furthermore, the manual or hand grating or processing also has other disadvantages such as the production of wounds in the hands of those doing the grating, back pain during the process and untidy environments which make the final product, gari not attractive for consumption. From the economic standpoint, those who use the manual method in gari production cannot produce in greater quantities because it is time consuming and also associated with lesser output. Even if they decide to produce in great quantities, family labour will be needed and which may not be available at all times since most of the children go to school.

The differential perception and use of modern technology as stated above also determines the ownership of a complete set of the processing machine by gari producers. Only 3.7 % of those involved in gari production have a complete set of gari processing machine. The percentage of actors who do not have a complete set of machine is 96.3%. This therefore implies that almost every actor in the gari industry in our study area lacks a processing machine because those who even say that they have a machine do not have a complete set. However, even when there are

machines, they are locally made. It is worth noting that the locally made machines get rusted as time goes on because, users are not yet acquainted with any method of maintenance and that is why the machines are often taken to local technicians for repairs. This alone illustrates the fact that the technology is not fully adopted because adoption goes with maintenance.

Even though actors or family farmers claim that they have the machine for grating cassava, ownership of this instrument is still a dream to come true especially because what they consider as machine at the village level is really not that. This technology for gari processing is relatively new because for the past fifteen years only 68% of the actors involved in gari production and processing are using the adapted technology. However, 48% of the women use this technology because it will help to empower them financially, 15.63% use it to produce gari for local consumption while 16.66% use the technology to make money so as to meet up with socioeconomic needs.

It is by selling gari that most women are able to get or buy other household items and needs. This commodity is also consumed in different forms for instance by simply sooking it in water and adding sugar or by combining it with fish or meat sauce to make a complete dish. It is also used in making *waterfufu, nkumnkum,*which are local dishes consumed in Cameroon. One of the most important products gotten during gari processing is starch used by dealers in textile to dye the cloths. This alone is a lucrative business in most parts of Cameroon. A ten kilogram measure of this product is sold for 2000Fcfa in the local market. The cultivation of cassava to produce gari does not represent a complete value chain but it creates employment because those who have large hectares of land hire labour for its cultivation. Besides, cassava plays a very important role in Bamunkumbit's food security since majority of the people eat cassava products at least once a day.

Women (81.9%) are involved in gari activities than the men. This aggregate presentation of women in gari production indicates the gender orientation of agricultural production in general and gari processing in particular. This is in agreement with earlier reports by Juma, (2011), who asserted that in Africa women represent 80% of agricultural producers. The reasons are that women are more specialized and produced greater quantities and better quality than the men. Men are more engaged in other activities such as clearing the raffia bushes and wine tapping especially in the study area. Given that the area of our study is found where rice is produced in Cameroon, men are more involved in rice cultivation even though the contribution of women in assisting them is equally significant.

**Women and Technology Adoption for Gari Processing**

In the present era where technology is used in almost every facet of human activity, none adoption of some specific technologies is considered as backwardness and lack of adequate education. Nevertheless, women are responsible for cassava processing, carried out on an individual or community basis as a group activity in the region of this study. Even though they are main actors in this activity, they still have limited control over the appropriate technology to ease their processing workload. They pay for mechanized cassava grating services which are generally male-owned. Hygienic and environmentally friendly waste disposal are not always available at village processing units hence promoting environmental pollution as well.

The adoption of technology in the processing of gari has greatly improved as far as the production of this commodity both for consumption and for income generation is concerned. For instance before the adoption those who could take 1 day to produce 5 buckets (about 50 kilograms) were just 1.8%, those who could do it for 2 days were 19.8% and those for 3 days were 75.7% persons. But with the gradual adoption of this modern technology in production, 96.4% of the producers can take just 1 day to produce this same quantity, while 1.8% persons can take 2 days to do so. This statistics are just indicative because results show that 100 kilograms could be produced in a single day. However, several problems concerning the full integration of this product still persist because in order to produce this quantity, producers need to sacrifice almost the whole day for a readily consumable product to be obtained. This implies that this technology is adopted to a certain extent.

Plate 1: Using sticks and ropes to tie the white granular

Dewatering the cassava mash is done by placing the bag containing grated cassava mash in between two sticks or poles together with ropes to exert sufficient pressure to squeeze the water out as shown by the plate above. The frying is done by women and children in earthenware pots in highly smoky environments. As Adebayo *et al.*, (2012), say, these unit of operations are very laborious and time wasting exposing the producers (especially women) to many health risks including physical injuries from hand graters and heavy stones that fall off from bags of cassava mash being pressed.

Even though this technology is not completely adopted for gari processing, the use of machines for its production is saving a lot of time for the women involved. For instance, extra hours are used in preparing land for other crops (69.7%), livestock farming which is the rearing of pigs, cows and fowls (20.5%) and petty trading (9.8%).

The low adoption rate of the technology requires technical follow-up which is a need expressed by the different actors in this activity. From field observation, it is obvious that technical follow up is highly needed because of the dilapidating nature of the machines with some locally fabricated and with materials which are not strong enough to last for long. As Ekpere *et al.*, (1988) state, traditional method of processing consumes a lot of time and energy.

The adoption of technology for cassava has equally influenced agricultural production especially the cultivation of cassava. After the adoption of the new technology, 85.2% of producers use improved cassava cuttings which takes just one year to get ready. Before technology adoption only 5.3% were able to have improved cuttings. This has led to the production of cassava a raw material for gari in great quantities. Hence, extension education is needed to enhance the adoption of this technology especially by women. Nweke and Akorhe, (2002) state that improved cassava varieties are spreading rapidly in part of west and central Africa. From results, 80% of the farmers get the new cuttings from friends while 20% obtain them from NGO such as HPI international who distribute to farming groups. The NGOs supply farmers with the improved cuttings but they never come back to supervise the proper implementation or use of the new seeds.

**CONCLUSION**

Looking at how production is carried out and in what aspect of production women are mostly involved, it came out that men are not really involved in the production chain. The entire workload is on women who are also those responsible for most household activities. Women do the cultivation of cassava, the weeding, harvesting, peeling, washing, grating, frying, and the

selling of the finished product. Men are progressively being involved in gari activities as they have realized that it is the only activity that generates income at any time of the year. Other agricultural activities that they carry out like coffee farming can only generate funds once a year. Besides, coffee farming is very uncertain as the prices for the produce are not stable and are not determined by the farmers themselves. Another issue that has led to men's involvement in this activity is the gender awareness that has made women to change their economic attitude towards their husbands. For instance, at first women after selling their produce could bring the money to their husbands. Today things have changed and women are able to manage their own income through self-help groups like *njangies* or microfinance groups.

The main constraints to women's participation in gari production and processing are social, economic and financial. There are also some of these technologies which are uncomfortable to use even though limited capital to purchase raw materials and lack of credit to invest in improved equipment is also an obstacle. However, the promotion of cassava production and processing may increase demands on women's labour force with the risk of causing household conflicts as well as negative effects on women's health.

Harvesting and transporting of roots from farm to homes and subsequent processing are mainly done by women. Most of the steps in processing are carried out manually using simple and low cost tools and equipment available to small farmers. Cassava processing is labor intensive and productivity is usually very low. The unhygienic conditions associated with traditional processing methods are enormous and the products from traditional processing methods are often contaminated with undesirable matter. As Sereme *et al*., (2009) say, better processing methods can improve the life-styles and health of rural people through higher processing efficiency, labour saving and reduced unhygienic conditions to improve upon the quality of products. If gari is limited supply at certain periods it is due (65.49%) to the mechanical breakdown of the machines.

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