

## Small and Medium Bamboo and Rattan Enterprises in Economic Empowerment in Kumasi: Perspectives of Producers

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### Abstract

In an increasingly business-oriented, cash-based city like Kumasi, people need access to cash income so as to maintain their businesses and families. Kumasi as the commercial hub of Ghana can boast of a number of scattered bamboo/rattan products producers. The employment dynamism of the bamboo/rattan Small and Medium Enterprises (SMEs) is very high and can lead to substantial poverty reduction to enhance the economic capacities of the craftsmen involved in the business. The objective of the study was to assess the economic potential of small and medium bamboo/rattan enterprises in terms of contributions to livelihood incomes and alleviating poverty of bamboo and rattan craftsmen in the Kumasi metropolis. A survey design approach was adopted, based on a purposive and snowball sampling techniques. A final sample of thirty-one participated in the study. Primary data were obtained through observations, personal interviews and structured questionnaire. The study established among others that bamboo/rattan SMEs have huge potentials to increase household livelihood incomes by way of direct employment for the craftsmen. The study also established that the bamboo/rattan SMEs was a middle income providing business whiles their products were also of high durability. The study concluded that the bamboo/rattan SMEs are sustainable in terms of generating income and creating employment for the craftsmen and their dependants to alleviate them from the mighty hands of poverty. Bamboo and rattan products can be a good source of income both for the country and for all those who are involved in the related business of bamboo/rattan items production. It is therefore imperative for the state to formulate more policies for the development of the bamboo and rattan sector in the country.

**Keywords:** bamboo; rattan; poverty; unemployment; SMEs; craftsmen and Kumasi

### 1. Introduction

A good number of timber companies in Ghana have collapsed over the past two decades, mostly due to challenges in accessing timber for processing. The bane of the wood industry is highly attributable to the dwindling timber resources in the country's forests. Ghana sits on huge deposits of natural resources including timber, bamboo, rattan, gold and a host of others and yet Ghanaians are economically debilitated by reason of their proclivity to cream of the crop leaders and officials who do not have solutions to poverty alleviation and unemployment. Governments have tried to generate employment, reduce poverty, ensure economic development and improve the biodiversity of the country, but all to no avail. Bamboo and rattan constitute two large non-timber forest products in the country, which had been identified to be a sustainable complement to timber usage and could help reduce the pressure on the natural forest for timber products

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(KMA, 2011; GNA, 2012). Bamboo and Rattan represent untapped major resource in Ghana whose full economic potential needs to be recognized, developed and promoted in a manner ensuring sustainable development of the nation and also the livelihood security to its people. The social and economic benefits of bamboo and rattan are steadily becoming more recognized in Ghana (KMA, 2011). Already, government programs have been pushing for broad based utilization of the resources in Ghana by establishing the Bamboo and Rattan Development Program (BARADEP), an initiative with the mandate to preserve bamboo and rattan while finding practical, sustainable uses for them. BARADEP's objectives include promoting sustainable uses of bamboo and rattan to contribute to people's livelihoods, reversing the trend of people treating bamboo as a weed by destroying it, and training rural Ghanaians to cultivate bamboo efficiently (MCI, 2008).

Bamboo is the common name for a member of a particular taxonomic group of perennial grass with large woody stem or culm belonging to the family *Gramineae*, subfamily *Bambusoideae* comprising of about 1,500 species (Forestry Commission, 2014). With approximately 36 million hectares and an average of 3.2% of the total forest area of the world, bamboo is naturally distributed in the tropical and subtropical zones. Africa has the smallest bamboo area of 2.7 million hectares, thus 7% of the total bamboo area in the world. There are totally about 40 species within 13 genera which mostly distribute in tropical rainforest and evergreen broadleaved mixed forest (Chaowana, 2013). In Ghana, seven species of bamboo species have been identified locally while eighteen exotic species are also on trial plantations (Forestry Commission, 2014). Most bamboo in Ghana grows naturally in the wild. The most prevalent is the *Vulgaris* species (KMA, 2011). In Ghana, the bamboo sector lacks substantive basic information on the problems and opportunities to enable implementation of appropriate interventions for efficient utilization of the resource to enhance the sector (Obiri & Oteng-Amoako, 2007).

Rattan is the collective name for climbing palms with scaly fruits that belong to the family *Palmae*. There are about 600 species of rattan representing 13 genera mainly in Southeast Asia and the Pacific. In Africa, there are only 22 species commonly found in the lowlands of Tropical Africa (Forestry Commission, 2014). Out of these 22 species, 3 species are found in Ghana. Rattans are used in the production of objects like furniture, fish traps, baskets, storage vessels, and other important products (Forestry Commission, 2014). In 2009, traditional bamboo and rattan products like mats and screens, baskets and wicker work products, and semi-finished plaiting articles, constituted (40%) to the global export market. The further-processed bamboo products including flooring, panels, charcoal, pulp and paper, constituted 23%, while bamboo and rattan furniture accounted for 21% of the total global export (KMA, 2011). Rattan provides a means of livelihood for collectors, processors and traders in the rattan producing countries of Africa. In Ghana, rattan contributes 20% of the total revenue from NTFPs (Oteng-Amoako *et al.*, undated).

Though poverty is a world-wide phenomenon, many countries provide tentative measures designed to reduce its intensity, yet successive governments in Ghana assume to show sign of helping but without coming to terms with what has caused so much hard pinching poverty over the years, let alone finding ways to remove such causes (Damoah, 2013). With 28.5% of Ghanaians living below the poverty line, and 28.59% living under 1.5 dollar a day as against a wholesome 51.84% of the population living under 2 dollars a day (Wikipedia, 2014) Ghana needs to transform the socio-economic status of its general population. In order to generate enough income to help minimize the incidence of high level poverty in most developing economies, international funding bodies and economic growth analysts have suggested to policymakers in developing economies to make greater efforts at promoting private sector development with Micro, Small, and Medium Enterprises being at the forefront (Snodgrass & Winkler, 2004).

The National Board for Small Scale Industries (NBSSI) in 1998 provided an operational definition of Small and Medium Enterprises (SMEs) to include the following; Small business is any business that employs up to 29 people. And small business is divided into; the micro and small and medium enterprises. The micro enterprises employ up to 5 employees with fixed assets (excluding land and building) not exceeding the value of US \$10,000; small enterprises are those employing between 6 and 29 employees or having fixed assets excluding land and building not exceeding US \$100,000 and; a medium enterprises employ between 30 and 99 employees with fixed assets of up to US \$1m.

The number of people engaged in bamboo and rattan related work is very high in Ghana yet still, except for intricate craftwork limited to a few master craft-workers, the rest of the bamboo and rattan based production continues to be oriented towards the local subsistence economy, while the commerce is largely controlled by middlemen who pocket the maximum benefits. Generally, traditional and low volume products dominate, some notable items are; handicrafts, musical instruments, furniture, craft and woven mats. Processing of bamboo and rattan is largely on a small-scale basis in Kumasi. Unfortunately uses of bamboo and rattan have largely been local and traditional with very little value addition. In some other parts of the world, bamboo is used for a variety of products including housing, furniture, and paper, and is becoming an important substitute for wood in flooring and other indoor products because of its beautiful stripes, colour and other desirable attributes (Brito & Cevallos, 2004).

However there has been a realization that it is not only the big businesses that provide the foundations of the nation's economies (Agyapong, 2010). In Ghana, data on Micro, Small, and Medium Enterprises are not readily available (Mensah, 2004); the little information available from the Registrar General's Department indicates that 90% of firms registered are Medium, Small and Micro Enterprises. Similarly, the Ministry of Trade and Industry, in 1998 estimated that the Ghanaian private sector consists of approximately 80,000 registered limited companies and 220,000 registered partnerships and is mainly dominated by Micro, Small, and Medium Enterprises (Mensah, 2004). Growth in Medium, Small and Micro Enterprises has been found to have a link with economic growth and poverty alleviation and as such it has been suggested by experts and international bodies as a strategy for reducing poverty in developing economies (Agyapong, 2010).

Interestingly, small businesses play key role in creating jobs, contribute to tax revenue and export and import revenue, facilitate the distribution of goods and services when they serve as middlemen (Agyapong, 2010). Unfortunately, the greater portion of efforts, resources and government policies are mostly directed towards larger corporations, one can still not refute the fact that the contribution of SMEs in today's economy cannot be over emphasised. SMEs have been identified as the catalyst for the economic growth of a country as they are a major source of income and employment and consequently poverty reduction (Beck, Demirguc-Kun & Maksimovic, 2004), by contributing substantially to gross domestic product. Their contribution to gross domestic product is in the area of corporate taxes, export duties and import taxes flowing from their activities (Agyapong, 2010).

The eco-friendly bamboo and rattan crops have immense potential in improving socioeconomic advancement and a good economic base for the people of Kumasi on sustained basis. The Bamboo and Rattan sector development is thus a high priority area of the nation and therefore there is the need to promote bamboo and rattan development for the benefit of people involved and as such a study of this nature needs to be conducted for baseline analysis. The objective of the study was to assess the economic potential of small and medium bamboo/rattan enterprises in terms of contributions to livelihood incomes and alleviating poverty of bamboo/rattan craftsmen in the Kumasi metropolis.

## **2. Methodology**

Commonly referred to as 'the garden city', Kumasi offers numerous business opportunities for its inhabitants. Kumasi is located centrally in the Ashanti Region, with a population of 2,035,064 inhabitants in 2010 (MCI, 2013) and 10 sub-metros within its metropolis fuelled the selection of Kumasi as the study area. The Ashanti Region holds the third largest stock of naturally growing bamboo in Ghana (KMA, 2011). Kumasi as the commercial hub of Ghana can boast of a number of scattered bamboo/rattan products producers. Four bamboo/rattan products producing centres were located within the central business district of Kumasi for the study.

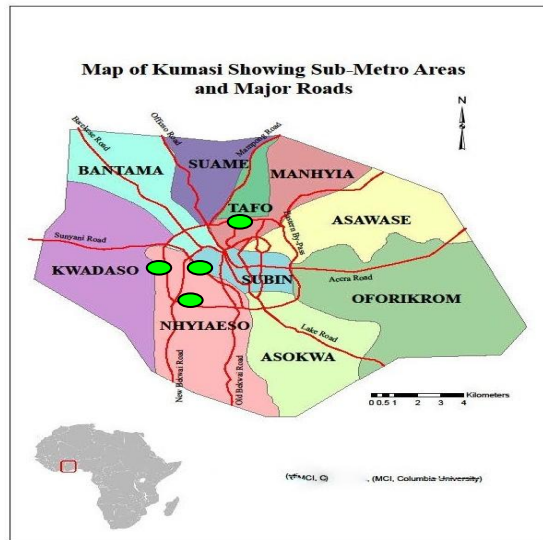


Figure 1: Map of Kumasi showing the production centers

A survey design approach was adopted, based on a purposive non-probability and snowball sampling techniques. Population of the study covered master craftsmen and artisans in bamboo/rattan products producing centers in Kumasi. The sample population was limited to four production centers. A final sample of thirty-one participated in the study. Primary data were obtained through observations, personal interviews and structured questionnaires. Secondary data were collected from text books, scientific journals, periodicals, reports, published theses, International Network for Bamboo and Rattan (INBAR) data bank and the Internet. Table 1 shows the sample of the selected production centers.

**Table 1: Final number of samples**

Location	Sub-metro	Number of artisans (%)
Adum	Subin	11 (35.5)
Ridge	Nhyiaeso	6 (19.4)
Dechemso	Manhyia	8 (25.8)
Pampaso	Subin	6 (19.4)
<b>Total</b>		<b>31 (100)</b>

Observations and interviews were carried out over a period of two weeks at the production centers. Interviews were of the direct personal investigation form aimed at understanding the economic and sustainable nature of the bamboo/rattan business and their activities as a whole. A total of fifteen master craftsmen/artisans were interviewed. The process of analysis followed an eight-step approach commonly used in qualitative research (McMurray, Pace & Scott, 2004) code schedules, assemble answers, sort by categories, identify themes, state themes, and provide examples, identification of similarities and differences, and reporting of the process and results. Qualitative data were organized and then categorized into themes and patterns in line with the questionnaire and then the usefulness of the information was evaluated in answering aim of the study. A questionnaire of twenty items was developed with two sections. Section A sought for respondent’s bio-data while section B enquires on respondent’s assessment of the factors relating to the economic and sustenance of the bamboo/rattan business and the items they produce. Of the fifty questionnaires administered, thirty-one returned. Quantitative data were analysed using descriptive statistics such as frequencies and percentages.

**3. Results**

**Bio-Data Results**

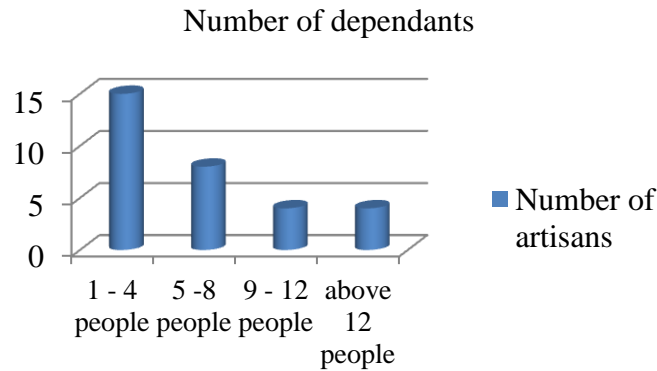
The results of analysis of the background information of the artisans are presented in Table 2.

**Table 2: Bio-data of respondents**

Statistics		Frequency (%)
Gender	Male	30 (96.8)
	Female	1 (3.2)
Age	55+ yrs	6 (19.4)
	45-54 yrs	4 (12.9)
	35-44 yrs	8 (25.8)
	25-34 yrs	11 (35.5)
	<25 yrs	2 (6.5)
Education level	BECE	16 (51.6)
	SSSCE	12 (38.7)
	Diploma	3 (9.7)
Work experience	1-5 yrs	5 (16.1)
	6-10 yrs	1 (3.2)
	11-15 yrs	7 (22.6)
	15+ yrs	18 (58.1)

Table 2 indicates that of all the four bamboo/rattan products production centres surveyed; only 1 (3.2%) female was involved in the production process. The remaining 30 (96.8%) were males. This is an indication that the processing stage of the bamboo/rattan industry is male dominated. Looks at the Table also shows that two-third (21) of the artisans fall within the youth age bracket and are below age 45. This was a good sign that the youth had great interest in the industry. As we were dealing with poverty, there was the need to enquire into the educational standards of the artisans and the results proved that they had all attained some form of formal education. Three (9.7%) had enrolled on diploma programmes, 12 (38.7%) had completed secondary education while the remaining 16 (51.6%) had also completed basic education. In addition to that, more than half (58.1%) had being in the bamboo/rattan products production for over 15 years.

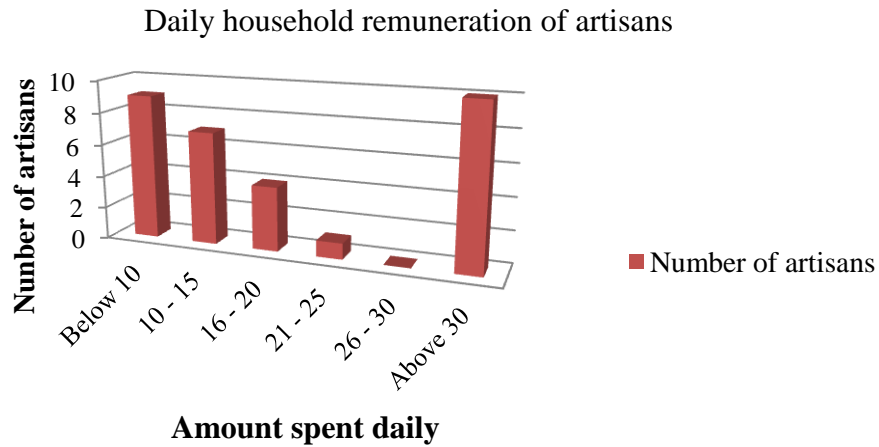
**Economic and Sustainability Results**



**Figure 1 illustrates results of the number of dependants of the artisans**

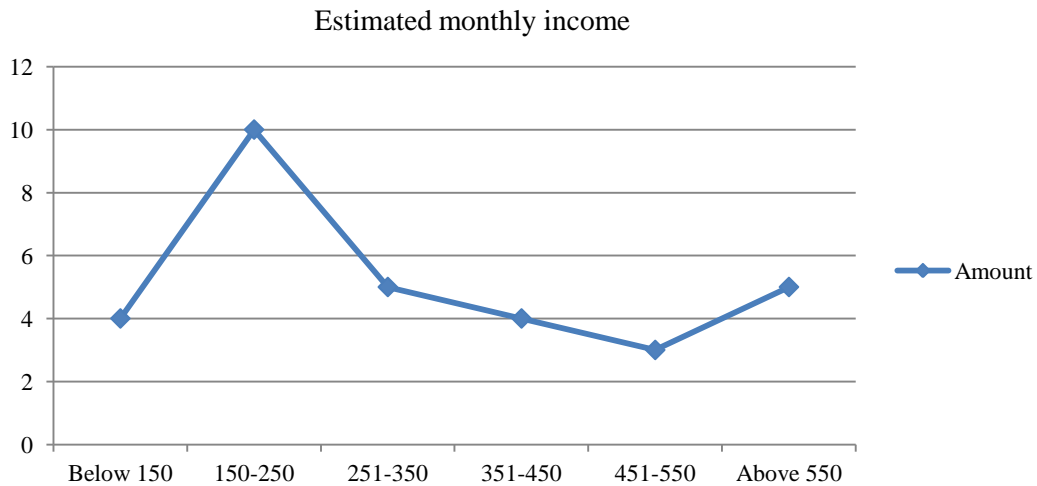
As shown in figure 1, 1 – 4 dependants had the highest (15) respondents (artisans). This was followed 5 – 8 dependants receiving 8 responses. The remaining two categories all had 4 respondents each. By average score rate, majority of the artisans had a sizeable number of dependants.

The daily household remuneration of artisans towards the upkeep of their families was estimated in figure 2. Ten of the artisans spend above GH¢ 30.00 on their families daily. Nine of them also spend below GH¢ 10.00 on their families daily. In between these two extremes, 7 artisans spend GH¢ 10.00 – 15.00, 4 spend GH¢ 16.00 – 20.00 on their families. Only 1 spends GH¢ 21.00 – 25.00 on his/her family daily. Figure 2 elaborates the daily amount spent by artisans on their families.



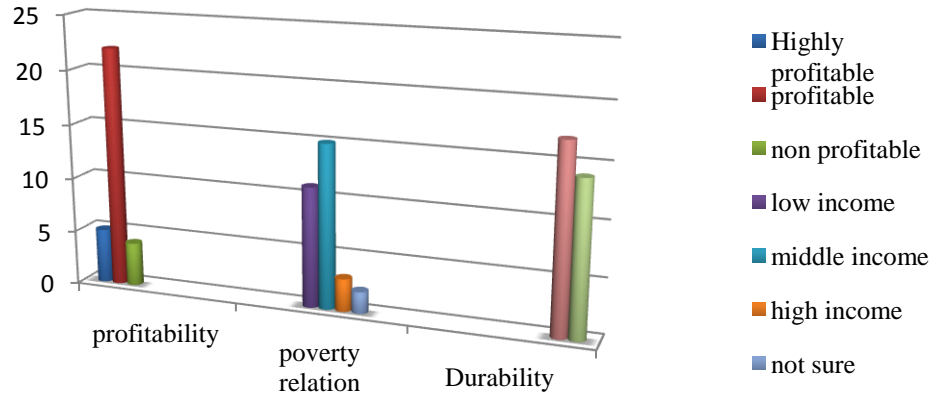
**Figure 2: Daily household remuneration of artisans**

Figure 3 displays the estimated monthly income that artisans receive from their bamboo/rattan products production activities. Majority (10) of the artisans receive GH¢ 150.00 – 250.00 over a period of one month from their business. Five of them receive above GH¢ 550.00 monthly from their business. Only 4 artisans receive below GH¢ 150.00 monthly. From figure 3, the remaining artisans receive between GH¢ 251.00 to GH¢ 550.00.



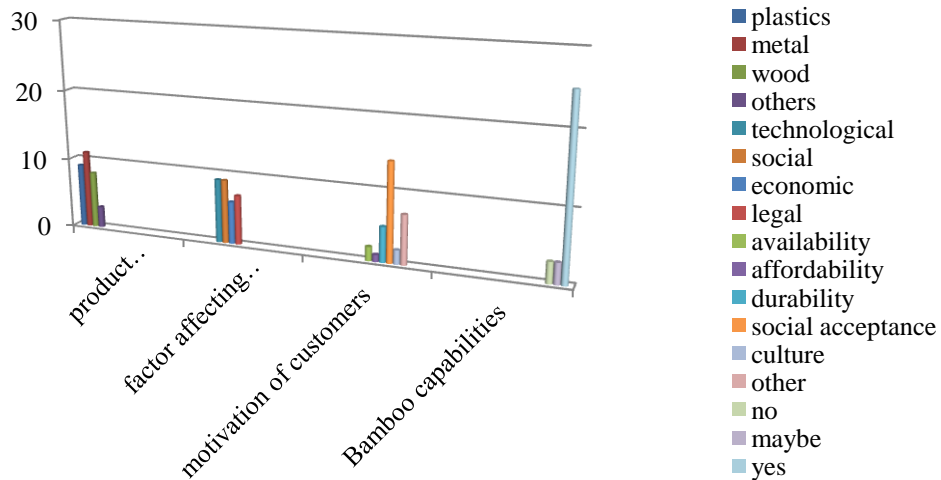
**Figure 3: Estimated monthly income of artisans**

The results of issues on profitability, poverty reduction and durability of bamboo/rattan products were estimated and displayed in figure 4. In terms of profitability of the business, a little over two-third (22) of the artisans confirmed that it was a profitable business venture. Fifteen of them accepted that the bamboo/rattan industry is a middle income job, while another group of 11 artisans see it as a low income job. Three were of high income job opinion and the remaining 2 could not ascertain the status of the business.



**Figure 4: Issues on profitability, poverty reduction and durability of bamboo/rattan products**

Figure 5 shows results of four issues assessed, thus; products that compete with bamboo/rattan products, factors that affects the sustainability of the bamboo/rattan business in Kumasi, factors that motivates customers to purchase bamboo/rattan products and the durability of bamboo/rattan products. From figure 5, products of plastics, metal, solid wood and other materials are all competing with bamboo/rattan products. Similarly, technology, social, economic and legal constraints are all factors that confronts the sustainability of the bamboo/rattan business in the area. With regards to motivation for the purchase of bamboo/rattan products, social acceptance of the products stood out. This was followed by other factors and product durability respectively. Affordability was the least motivating factor. The last item in figure 5 enquired about the possibility of bamboo/rattan replacing the conventional product sources and the response was in the affirmative from more than two-third of the artisans.



**Figure 5: sustainability issues on competitiveness, factors, motivation and capabilities of bamboo/rattan products**

Two direct statements were further posed to artisans on specific issues relating to sustainability and the results are shown in Table 3.

**Table 3: Sustainability of the bamboo/rattan industry**

Statement	Yes	No
Do you feel that this is a suitable source of employment for you?	23 (74.2%)	8 (25.8%)
Does state authorities' shows concern for your industry?	11 (35.5%)	20 (64.5%)

As depicts in Table 3, 23 (74.2%) of the artisans agreed that the bamboo/rattan business was a suitable source of employment for them as against a minor 8 (25.8%) who felt it was not better for them. According to the artisans, majority (64.5%) asserted that state authorities shows no much concern for their business, while to the remaining 35.5%, state authorities have demonstrated commitment to their businesses.

#### 4. Discussion

Bamboo and rattan offers promise and potential for value addition and incremental income and employment. The employment dynamism of many products and processes is very high and can lead to substantial poverty reduction to enhance the economic capacities of the craftsmen involved in the business. Unfortunately uses of bamboo and rattan have largely been local and traditional with very little value addition.

##### General information

Bamboo and rattan SMEs can reduce poverty if supported and managed on a sustainable basis. Bamboo and rattan-based handicrafts and furniture are getting increasingly popular as they are attractive, lighter and sometimes cheaper than similar wood-based products. In Ghana, one of the avenues for human resources development is through SMEs, by informal training where skills is acquired through apprenticeship and coaching (Agyapong, 2010). It can be seen that most of the craftsmen have used this medium to acquire valuable knowledge and ability and have gone on to establish the bamboo/rattan businesses on their own. With majority of the craftsmen been youth is something encouraging. The informal sector is undoubtedly the main income provider for majority of Ghanaians. This is because the available formal sector only employs a limited number of the economically active labour force (Agyapong, 2010). So if the youth are involved in bamboo/rattan SMEs, then the unemployment situation in Ghana will reduce to some extent. To complement their seriousness, all the craftsmen can boast of some form of formal education and are capable of managing their businesses as well as their ability to be innovative and creative.

##### Economic essence of bamboo/rattan enterprises in Kumasi

It is known that poverty is much less a problem of total food availability than of who produces the food and who has the income to buy it (Chambers & Ghildyal, 1985). Overcoming poverty requires creating employment and income generating opportunities. It was common with majority of the craftsmen have an average dependants of one to four people so that they could be able to cater for their families from their businesses. This correlated with the amount of money spent on their families daily. Those with high dependants tend to spend more money. However, they are all able to take care of their households from their incomes. Once the craftsmen enjoy some form of income, they were able to afford some basic necessities of life for their households and by that aid in poverty alleviation (Agyapong, 2010). The study shows that bamboo/rattan SMEs have huge potentials to increase household livelihood incomes by way of direct employment for the craftsmen. Todaro & Smith (2009) refers to poverty as where a population or section of a population is, at most, able to meet only its bare subsistence essentials of food, clothing, and shelter to maintain minimum levels of living. Hitherto, the craftsmen could have remained poor without their



businesses as they clearly indicated that the bamboo/rattan business was a profitable venture. In a similar situation in Nepal, rattan was very important source of livelihood for the economically and socially weaker sections of the community (MDBRPP, 2010). A study by Abdul-Aziz also reported on the impact of bamboo economy on poverty alleviation in Ileje District of Tanzania and the results show that bamboo trade was a strategy to alleviate poverty that had manifested in the region (Abdul-Aziz, 2006).

The study also established that the bamboo/rattan SMEs was a middle income providing business while their products were also of high durability. This implies that the craftsmen will continue to be in business to earn a living. This fuels the assertion that the bamboo and rattan SMEs play significant role in generating additional employment in the country. Again, rattans have the potential for the generation of income as a high quality export product, either as raw cane or furniture in the export market (Oteng-Amoako *et al.*, undated). By and large, Small and medium enterprises (SMEs) account for a significant share of production and employment and therefore directly influence poverty alleviation (Okpukpara, 2009).

### **Sustenance of Bamboo/Rattan Enterprises In Kumasi**

Bamboo and rattan products have very high value in export markets. The products generate much-needed foreign exchange and thereby serve to increase the wealth of the exporting country. Sustainable development means improving human welfare without degrading the environment. Bamboo and rattan products are considered as environmentally friendly and have good international market. In China, Bamboo microenterprises have proven to alleviate poverty and enhance the environment (Jiafu, 2001). The study established among others that plastics, metal, solid wood and other materials are all competing with bamboo/rattan products on the market. In the same way, technology, social, economic and legal constraints are all factors that hamper the sustainability of the bamboo/rattan business in the metropolis. Jiafu (2001), again, identified factors affecting the sustainability of the bamboo industry in China, that productivity, value-added processing and ecological functions of the bamboo forests in had not been fully brought to bear. Hitherto, bamboo/rattan products have socially been accepted by all classes of people. Bamboo/rattan products are also of high durability and have potential possibility of replacing the conventional product sources. This was an indication that there was available and ready market that is likely to sustain their businesses. A market as defined by Kotler is a set of potential and actual buyers and sellers of a product or a service with facilities to communicate with each other (Kotler, 2002). It is clear from the study that, in spite of the aforementioned factors, the bamboo/rattan SMEs is sustainable in terms of generating income and creating employment for the craftsmen and their dependants.

### **5. Conclusion**

Bamboo and rattan are valuable NTFPs with high economic value. Apart from having immense economic importance, both have social and cultural significances in society (MDBRPP, 2010). Bamboo and rattans being a multipurpose, eco-friendly crop and natural resource needs to be managed and exploited for sustainable use. Bamboo and rattan are precious resources that need to be fully tapped by Ghanaians for their numerous utilization possibilities. It was clear that bamboo/rattan SMEs have created employment for the craftsmen and with the right approaches and support, bamboo and rattans can undoubtedly invigorate some section of the economy of Ghana by creating employment opportunities to a large number of people. Bamboo and rattan SMEs play significant role in generating additional employment in the country. It is also an excellent business on which to build a variety of income and employment generating opportunities to alleviate poverty. The sustainability of the bamboo/rattan businesses is also on sound standing in spite of certain challenges. In the face of the paramount importance of bamboo and rattan resources, only limited efforts have been made to promote this sector in Ghana. As a result of low or no investment in improving bamboo and rattan designs and market promotion, the craftsmen are facing problems. Until the establishment of BRADEP recently, there was no specific direct policy supporting the bamboo/rattan businesses with the exception of the involvement of the activities of INBAR and FORIG. In sum, the bamboo/rattan SMEs are sustainable in terms of generating income and creating employment for the craftsmen and their dependants.

On the face of all the discussions, the seemingly assuring hope is that, as much as poverty is a human creature, it takes human ingenuity to eradicate it. No Ghanaian was born to be poor and no community was designed to suffer undignified indigence. There is a solution to Ghana's poverty hiding somewhere that will emerge soon with the collective efforts of academia, industry and state authorities. Undoubtedly, bamboo/rattan SMEs may be part of that solution. However, the development and achievement of such solution will not take a piecemeal approach.

## **6. Recommendations**

Bamboo and rattan products can be a good source of income both for the country and for all those who are involved in the related business of bamboo and rattan items production. It is therefore imperative for the state to formulate more policies for the development of the bamboo and rattan sector in the country and develop mechanism to inform the producers and sellers about market demand and export procedures. Bamboo/rattan should be promoted as an essential wood substitute by increasing bamboo/rattan products production. Bamboo/rattan craft and art centers should be supported with improved technology, design and market linked trade for value added items for export through industrialized mode of production. Finally, Polytechnics, Universities and Research institutions must collaborate to conduct more practically oriented research on bamboo and rattan to support the sector.

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