

Bamboo, Hope for the Wood Industry in Ghana

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Abstract

Over exploitation of some of the forest products in Ghana has led to their extermination. The current state of the Ghanaian woodland has drawn Government attention to wood sources that are renewable, environmentally supportive and fast growing. This is an attempt to check deforestation and to develop alternative resource for the fast dyeing wood industry which depends on the forest for its supply of timber? Studies made on bamboo, uncovered its capabilities and potentials as an appropriate material for adoption to replace Timber wood.

Keywords: Bamboo, forest, extinction, timber wood, lamination, deforestation

1. Introduction

Ghana was well-to-do in lots of natural forest resources. The Ghanaian forest was the depository from which all the wood industries in Ghana took material to do business. Timber firms exploited this natural resource for export to foreign countries and for consumption by carpenters and furniture industries locally, while traditional wood carvers also indiscriminately identified, selected and harvested species of wood they considered appropriate for their work. This unmanaged and indiscriminate exploitation of the Ghanaian forest, has led to the reduction in the size of the forest and a corresponding extinction of the over exploited species. Replanting programs designed to sustain harvesting activities in the forest did not address the rate of exploitation. Today, most traditionally accepted forest resources are not available in the Ghanaian forest. Most of these species take not less than thirty years to grow and mature for use.

Preliminary studies have revealed that most of the traditional indigenous art industries which take their materials from the forest are closing down because; these artists do not have other sources of raw material. This unfortunate situation has caused lot of the Ghanaian local wood industries to close down. In the production of *Gyil*, the indigenous xylophones in northern Ghana, rose wood traditionally known as '*Nega*' is used. Today the lack of rose wood has brought to a halt the production of indigenous xylophones in some production centers in Northern Ghana.

The vast natural forest resources of Ghana, which takes account of rattan, bamboo, mahogany, ebony, mansonia and many species of timber has been mismanaged. Government mislaid center of attention on wood in the Ghanaian forest, a principal production resource of most local industries. In places where some significant attempts were made to replant some of the extinct species, premature harvesting practices have extinguished the initial light that was seen at the end of the tunnel. This activity of the impatient has deprived Ghana from receiving the full benefits of the reclamation exercises.

2. Traditional uses of bamboo in Ghana

Due to its comparatively diminutive duration of life, bamboo is, conventionally, and more often than not used for purposes that do not have need of much permanence. The available species offer fencing material for most homes and gardens, kitchens and bathrooms in rural dwellings and low-income areas in the cities. Bamboo supply impermanent roofing for indigenous architecture and housing, it is also used to construct seating benches that are positioned permanently in the ground. These kinds of constructions are common for palm wine and *pito* drinking spots in the rural areas in Ghana.

Bamboo is used as props on farms to give support to crops that depend on other plants to climb up. Steiner (2006) said indigenous musical instruments like flutes are made from the small bamboo culms of about 25 mm diameter. Steiner cited the renowned Ghanaian musician, the late Dr. Ephraim Amu as a man well acknowledged for his bamboo flute. This information about the traditional uses of bamboo in Ghana is an indication that, there is use for bamboo and it is always in the unrefined form.

3. Non-traditional uses of Bamboo in Ghana

Traditionally bamboo is not one of the plants considered as a useful material, due to this, bamboo as a plant or material producing plant is not cultivated. It is always seen as a free material in the forest. In Ghana no record of the past revealed any of the Ghanaian hard working farmers to be cultivators of bamboo. Although it satisfied most rural dwellers by providing immediate woody material for construction, very little attention was given to it. Steiner (2006) said that recently in the building and construction industry, traditional Ghanaian forest product like *wawa* poles that were once used as props for scaffolding and for casting concrete flooring have become scarce, expensive and have been replaced with bamboo culms. This explains and paints a picture of the situation in the Ghanaian forest.

To arrest the situation arising from over exploitation of the forest and the possible taking up of bamboo as an alternative to timber wood, studies on bamboo was made and results has been uncovered to selected local craftsmen in the wood industry who now use whole and split bamboo culms as carving material in place of wood to produce various decorative items with the indigenous touch and finish as in figure 1.

4. Bamboo, an adoptable and renewable material

Bamboo is a non timber forest product with quite a lot of uses such as construction of houses, furnishing and interior adornment. Even though this forest product is a high-quality material, its long-established use has been constrained to the construction of impermanent structures and is used where inexpensive and low-grade woody resources are considered necessary. Threats of extinction of the timber resources in Ghana and other countries in the tropics have drawn attention of governments to bamboo, a forest resource that is renewable, environmentally responsive and extensively obtainable. Bamboo grows swiftly, adapts to a good number of climatic situations and possesses properties superior to majority of fast growing plants.

The growth of bamboo and its wide distribution throughout the world makes it an important natural resource for hundreds of millions of people across the globe. (INBAR Strategy, 2006). Apart from fast growth, bamboo has the property of rejuvenation after cutting, and can provide a harvestable yield every two years once maturity is reached. This according to Scurlock et al. (2000) makes it a quick and reliable woody material, a resource which lends itself to processing into many forms and products. Belcher (1995) said that, bamboo is relied on heavily by some of the world's poorest people and can be a significant path way out of poverty. This nature of bamboo expressed by Belcher, can serve as a break through for some of the rural poor in Ghana. Bamboo can be cultivated for an unending, intermittent harvesting in a life time. In line with this, the regional director for INBAR in the Ashanti region of Ghana disclosed that, bamboo- based interventions have high value additions through enhancing incomes, generating extra rural employment and empowering people in their communities. Jayanetti et al (1998) concluded that in order to fully exploit the potentials of bamboo, development efforts must be directed at key areas which includes design, preservation and processing into boards. They further added that, socio-economic, appropriateness and technical studies will be essential to identify factors which govern present use of bamboo and the future. They concluded that, once these issues have been addressed, bamboo will be placed to become a major manufacturing material for most countries and this includes Ghana.

5. Bamboo, a substitute for timber wood in Ghana

Specific species of timber wood are used for particular types of work. This is because of the beliefs, philosophies and myths associated with things found in nature. In a personal communication with Nana Owusu Ansah, a research fellow of the centre for African and cultural studies of the Kwame Nkrumah University of Science and Technology, said all things found in nature, that grow have life and therefore have a soul. He explained further by saying that, it is the soul of things found in nature that accounts for the differences in function and capabilities. Specific wood species are identified for particular works of art. He said the soul is the functional force that gives life to the finished art piece made from wood.

Over utilization of some of the forest products has led to their extinction. This situation has brought a decline in the production of some art forms and the eventual loss of the belief, myth and stories associated with them. The stories associated with the art forms according to Steiner et al (2013) bring hope to people and this is a characteristic of their culture. To sustain culture and deepen the relationship of man and nature, several attempts have been made by contemporary artists to develop alternative use for lesser used forest product such as Bamboo. This is in line with the understanding of artists, playing their roll as creative beings having an encounter with nature to develop a sustainable culture. Culture, the sum total of achievement of a people, according to Effa-Ababio (2005) is dynamic. It is within the dynamic nature of culture that bamboo has been identified, tested and found suitable to represent timber in the wood carving industry. Bamboo lends its self for processing and fabrication in the culm state and laminated form.



Figure 1. Indigenous Ghanaian forms carved in Bamboo.

These art forms in figure 1 are an indication of the potential product that can be developed out of the bamboo culm. In the production of the mask in figure 1, the natural form of the bamboo culm was considered, processed and the designs developed to divulge the concepts of belief, faith or conviction as expressed by Steiner et al (2013). The second form, which is a representation of wisdom, is derived from the agreement of three heads. This is from the saying that the council of three is the best.



Figure 2. A knock down bamboo walking stick

In the production of the walking stick, the form of the culm was well thought-out as principal. The length of the stick is a representation of uprightiness, the notches as stages in life and the three parts as experiences in life. It is believed that the user has life experience and can make and unmake situations in life. This refers to the aged and therefore the very wise in the society who are considered as galleries of knowledge and wisdom. Three to the traditional artist of Ghana is a symbol of wisdom. These ideas and philosophies of life are composed out of situations and experiences of life. Such compositions also lead to proverbs, hence the proverbial names of most indigenous art works.



Figure 3. . Indigenous Ghanaian forms carved in laminated bamboo.

These art forms in figure 3 were made out of laminated bamboo. In this, whole bamboo culms were split in to strips, planed, preserved and were glued and clamped into board. This board became the material that represented processed timber used for carving. A carver, Kwame Nti (2013) in an interview said laminated Bamboo board is very compact. This calls for very sharp tools when carving. He also expressed his joy for the introduction of bamboo, a material he considers affordable and readily obtainable.

In more recent years the technique of splitting the culms into slivers for a variety of uses is becoming a novel practice. Splits and slivers are bonded together by means of glue to form laminated ply bamboo boards that can be used for most purposes for which timber wood is necessary. This is a get through in the development of bamboo for use in the Ghanaian wood industry. Figures 4 and 5 are furniture made in laminated bamboo.



Figure 4. A laminated bamboo coffee tables



Figure 5. A laminated bamboo dining furniture set.

6. Bamboo and the environment

In history, the Chinese civilization was closely related to bamboo. Findings of archaeologists, according to Mr Yang (2010) in an interview confirmed that, bamboo contributed immensely in the life of the Chinese. The bamboo sea, a major environmental service provider, has its roots in the Chinese civilization and culture. Hoogendoorn (2010) affirmed that, Bamboo's ability to provide global environmental services through carbon sequestration is also now receiving high level attention. This is a subject of research by the International Network on Bamboo and Rattan (INBAR) and partners. Findings from INBAR's technical report No. 32. States that, due to its fast growth rate, bamboo has long been supposed to be a plant with a high sequestration capability, and research to date indeed confirms that bamboo out performs most fast growing trees in its rate of carbon accumulation. This exposes the multiple benefits that bamboo can provide.

7. Conclusion

Seeing that bamboo is a practically all flexible building and construction materials with countless applications in the field of production in the world, China, Japan, India and Indonesia have taken advantage of this natural grass to develop rural communities in their countries. For Ghana to, in every respect profit from bamboo, an arrangement has to be made that will direct its objectives at the development of bamboo. This should be in the areas of bamboo processing know-how, equipment for transforming bamboo culm into laminated boards. Again these objectives must address efforts for embarking on enormous development of bamboo farms. This will in the short and long term position bamboo to expand into a major industrialized and construction material to replace timber wood in Ghana. Ghana will be contributing to improvement in the environment in Africa and ensuring the safety and security of her future generation. This will make available jobs for the youth, a contribution to employment creation, a development in the Ghana's financial system and a march in the way of substituting timber with bamboo in Ghana.

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- Steiner Rudolf (2013) fashioned for fashion the dynamic culture of bamboo in Ghana, *journal of art and design*

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