

**ANALYSIS OF SUITABLE MATERIALS IN BÀTÁ DRUM
CONSTRUCTION**

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ABSTRACT

Different materials of different properties and textures come to play in the making of traditional instrument, especially such among the Yoruba people of west-Africa where there is array of traditional instruments to serve different cultural purposes. The role which materials take in the making of musical instrument is sacrosanct and indispensable. It is worthy of note that the property/quality of materials used in the construction of musical instrument affects strongly the overall acoustics of such instrument. However, the technological making of musical instrument lies in the hand of the maker with the thoughts of type of acoustic quality aims at getting and the approach towards achieving the desired acoustic taste on the instrument. Observably, it is possible for a traditional drum not to speak well after the whole construction process. The result of which could be linked to the action of ineffective materials coalesced together under the construction process. Bata drum being one of the indigenous drums of the Yoruba people has been picked as the study example for this research paper due to observation of lack of traditional knowledge of quality materials often times used by traditional drum makers in the society. The paper's focus is to discuss/analyze the properties of materials used in the making of bata drum. The data gathering method used for this study was based on experimental method to test materials in order to ascertain authenticity. Findings confirmed that among wood typologies, àpa/òmo wood is best suited for the making of bata drum due to its hardness, resonance and durability. This study concludes that for bata drum to remain durable and effective at all times, the materials discussed under this study should be considered in making in addition with consistent maintenance technology.

INTRODUCTION

Drums remain the backbone of African music. It is the driver that shape the movement and the direction of the music in all the traditional societies. In African music the role of drum is indispensable and cannot be overemphasized. It is important to note that drums play pivotal role in African rhythm.

However, a drum is not a drum without undergoing the process of joining together of different suitable materials which are selected. These selected materials and construction method/approach for drum making counts in no small measure. The general acoustics, tonality and durability of the drum heavily leans on the quality and properties of the materials used.

Bàtá' drum is one of the prominent drums of the Yoruba people of Nigeria with concern to promote and document the cultural heritage of the people. The said drum speaks and communicates eloquently to its people. In the same vein, it could be vulnerable by not speaking well or spoil easily. The effect which lies in the hand of the maker.

Quality materials facilitate quality drums. It has been observed in the society that the amount of bata drums which effectively talks and considered to be quality are of paucity. Some bata drums its wooden frame has been eaten by termite and insect which affects the sonority of the drum. These are problems posed which create a concern. It is the belief of this writer that if the modern drum makers are equipped with adequate knowledge of suitable materials for bata drum making as well as adequate construction approach, there would be a better bata drum available in the society.

This research paper in its approach is technological and it aims to address this research gap to providing relevant knowledge by unearthing and analyzing the concept of materials suitable for bata drum construction.

THEORETICAL FRAMEWORK

This research paper in its approach explores the scholarly work of Ajiboye & Akere (2014), which help to provide technological knowledge on drum technology. The study and experiment emphasize continuity of drum tradition as well as improvement on construction, fabrication, aesthetic value and material technology of drums. In the context of this study, this conceptual aspect is relevant.

Ajiboye & Akere (2014), jointly provided deep research knowledge on dundun drum construction. Their collective effort brought about significant innovation on the drum by creating an in-built pick-up device which was attached around the wooden frame of the drum to make it produce electronic generated sound without placing it in-front of a transducer. Their technological innovation on the drum stood out significant and also serve as a means for improvement on the drum. In the context of this study, this is relevant as the innovative materials when considered for the making of bata drum would serve as technological improvement which would again color the acoustics of the drum.

EVALUATION AND DISCUSSION

The following materials are commonly used for the locally made drums in Yorùbá homeland: for membrane materials we have *ọlẹ̀ màáílù* (cattle fetus), *awọ ewúré* (goat membrane), *awọ ìgalà* (antelope membrane) and for wood materials we have *igi-òmọ* (cordia millenii), *igi-apá* (afzelia africana), HDF, MDF and sometimes beech wood (*gmelina arborea*).

The technological experiment made on the materials revealed that the wooden frame (*igi-ìlù*) carved from *apá/òmọ* wood exhibits special sound resonance which naturally contributes or improves the acoustics of the drum. More so, Forest Research Institute rated *apá* and *òmọ* wood as a quality wood capable of weather resistance, response to sound and thickness. It can withstand all seasons without crack and cannot be eaten by termite or other insect that feeds on wood. It has been tested to be a strong wood. This is the reason why it is generally used for the making of drum as bata.

Another material is *awọ ewúré* (goat membrane) or sometimes *Ọlẹ̀ màáílù* (cattle fetus). Both materials are naturally flexible, light and can easily tear off under heavy pressure. Although, they are rich in tone production and can be used to mimic human speech surrogacy.

DISCUSSION CONTINUES

In *bàtá'* drum construction *awọ ewúré'* (goat membrane) is jointly used with *awọ ìgalà'* (antelope membrane) as the combination produces special resonance and tone color. *Awọ ìgalà'* by nature is a strong membrane and can withstand serious beating without tearing off while *awọ ewúré'* on the other hand is a weak membrane but more tuneful and tonal. This is the reason why the combination is considered for bata drum construction. More so, the tension strings (*osan*) that tightly holds the two surface membranes together are made from antelope membrane.

Awọ ìgalà' (antelope skin), *ọsán* (tension strings), *kúsanyín* (ritual ring) *igi-ilù* (wooden frame), *apá-ilù* (strap/hanger) and *ida* (black wax) serves the suitable materials explored for the making of *bàtá'* drum. These materials are further discussed below:

➤ **Igi-ilù:** the wooden frame. It was carved from *apá'* wood due to its peculiar sound reinforcement derived. It is strong, hard and doesn't break. It has been seasoned and preserved with a substance known as *ọrá ewúré'* (subcutaneous fat) to scrub the bore of the wood. The purpose of this is to protect the wood as well as to improve the sound.

- **Awọ:** this is the animal membrane used to cover the wooden frame. The result of the study approach confirm *awọ-ìgalà* and *awọ-ewúré* as the best suitable materials when jointly used for the construction of the drum. *Awọ-ewúré* is placed in two layers underneath the *awọ-ìgalà* in order not to tear off easily and also to contribute to the overall acoustics of the drum.
- **Ègì/Ikàn:** it is a wooden material shaped in ring form, wrapped in animal skin. It is placed round the edge of the wooden frame of the drum to tightly hold down the membrane round the edge of the frame.
- **Osán:** the tension strings. This material is suspended permanently round the body of the drum, to hold very tight the membrane from the bigger surface of the frame to the smaller surface. The level of the tightness determines the frequency or pitch that the drum would produce. It is also made from antelope membrane.
- **Saworo:** it is a jingling bell with a cone shape. It is always placed/attached to the edge of the drum in order to add a coloristic sound as it jingles within the precinct of performance. It is made with blacksmithing brass and is culturally believed that a drum without the attached bell is not a good drum.

- **Iro/ida:** it is translated wax and is indispensable in *bàtá'* drum making. The wax is fixed at the center of the larger surface of the drum in order to change pitch/tone during performance. It is gotten/fetched from tree trunk. The tree is known as *iro* tree which secretes certain substance called *oje iro*. Research has it that the substance must be fetched from the tree very early in the morning before sun rises. It is this substance that is processed together with other materials like blended charcoal and red oil when heated together to make the wax. Without the presence of wax on the surface of the drum, the drum will not voice well.
- **Àpá ilù:** it is a designed material made with leather and clothe sewed together. It serves the purpose of hanging the drum.
- **Thread/twine:** it is used for tying and sewing together of materials, especially the tying of membrane round the edge of the wooden frame as well as the fixing of the tension strings.
- **Kúsanyín:** it's a ritual ring attached to the drum at the base side for the purpose of ritual observance when due.

CONCLUSION

The concern for effective materials take a pivotal role in drum making and cannot be overemphasized. The materials for the construction process of drums vary. It is worthy of note that materials are rightly selected based on properties, textures and response to sound. In drum making materials are not just selected by physical structure. It has to undergo technological testing in the acoustic laboratory before it could be used.

Based on technological approach adopted for this research paper, the suitable materials for bata drum construction have been revealed and analyzed above such as *apá'* wood for the wooden frame, *awọ ìgalà* (antelope membrane) and *awọ ewúré'* (goat membrane) jointly used for the covering of the wooden frame, *ọsán* (tension strings), *ida* (black wax), *saworo* (jingling bell) and *kúsanyín* (ritual ring). The use of these materials contribute immensely to the unique timbre of the drum

The study argue that for bata drum to be durable, tuneful and not to lose its acoustic quality, these materials are to be used because of their special characteristics.

Thanks!