

TOWARDS A BETTER QUALITY CONTROL OF CERAMICS PRODUCTS FOR NIGERIAN MARKETS

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Abstract

Ceramics products all over the world are made to serve different human needs, the art is therefore one of the subdivisions of a peoples' artistic culture. The importance of Ceramics in the various cultural sectors of human endeavor cannot be undermined. It entertains, stimulates human socio- religious minds, drives creativity, and promotes economic growth and development. For people to enjoy using any ceramics product, it must have some specific standard to attend to such as some acceptable level of durability, aesthetics, be health hazard free to both the producer and the end user. However, despite the importance of ceramics products to Nigerians, the sub-sector is currently confronted with some quality control challenges as a good number of the products sold in the markets are of sub-standard quality ranging from that of body composition to glaze. This paper looks into some of these challenges under: the prevailing need for ceramics products in Nigeria, the professional qualification of the producers, their financial base, the available facilities, and the inherent lack of partnership among ceramics producers in Nigeria. The paper proffered ways as to how to control the quality of the ceramics products sold in Nigerian markets.

Introduction

The art of traditional pottery in Nigeria is an old craft known to all the deferent cultural groups. Each cultural group has some slightly unique technical approach to the production method. The variations in shapes and sizes are also in line with the cultural needs of the consuming communities. The potters in each community over the ages have learnt to have a good knowledge and control of the pottery raw materials and how to prepare these materials to shape pots that will meet the needs of the consuming communities. The qualities of traditional pots among Nigerians are usually controlled in the family because the art is always a family craft, which in most communities is passed on from mother to daughter as a means of checking the standard for quality control (Gukas, 2004).

All over the world there is no culture that is static, all cultures are dynamic, and so is the art of pottery among Nigerians. The old pottery practices among all the ethnic groups have

seen some degree of changes over the years. As the country develops the people also change their socio-economic status, and new pottery materials and techniques of pottery have also been introduced. Modern pottery which is also referred to as ceramics was first introduced in Nigeria in 1904 by Mr. D. Roberts, without any success, and then in 1930 Kenneth Murray introduced it to the Umuahia community with little success. The new technique gained its full acceptance among Nigerians in 1952 when Michael Cardew introduced it at Suleija to the Gbaggi community in Niger state of Nigeria. This huge success was primarily due to the accessibility of the raw materials and the availability of skilled traditional potters as human resources (Kashim, and Akinbogun, 2005).

Ceramic Raw Materials and Development in Nigeria

The geological survey of Nigeria shows that Nigeria has abundant deposits of ceramic raw materials some of which are of equally high

standard when compared with those from the developed countries. These materials are therefore suitable for all kinds of ceramic products, if the right kinds of facilities are used to mine and process them. All that is needed is adequate knowledge of the raw materials and the appropriate methods of preparation and production. The major aims behind the introduction of Modern ceramics in Nigeria, in the early part of 1950s were: to use the products as utensils to feed the huge numbers of the West African Frontal Force; and the growing numbers of Civil Servants, whose life style was geared towards that of their colonial masters. The art of pottery in Nigeria is now classified into two main groups, namely the traditional and modern pottery.

Traditional pottery according to Nwanah (2007) is an aspect of our cultural heritage which has not benefited from Science and modern technology, and that explains the reason for its seeming stagnation and abandonment by the younger generation. However, this method of pottery has a range of culturally accepted forming and shaping techniques, which has a long history of practice among the different cultural groups. This accounts for the differences in production methods, shapes and sizes of traditional pots among the various cultural groups in Nigeria. To attempt to change any aspect of these within the cultural groups without due consideration to the cultural aspect it serves the producing community will be met with stiff resistance. Every aspect serves a particular function among members of the Producing community and the quality of the pots are to the best of the producing communities highly controlled traditionally beginning from the clay sourcing through its preparation, production and firing. There is therefore nothing that is used in the preparation or firing of traditional pottery that are considered as hazardous to health.

Modern pottery or ceramics as seen above is a recent development which has brought into the art more product lines than the traditionally practiced Nigerian pottery which among most cultural groups is limited to the production of vessels and bowls. Modern ceramics has introduced the use of such facilities as the potters' wheels for the production of household utensils, table wares, and many more other labour saving devices such as the use of clay blunging machines, Pug mills, jaw crushers,

moulds and Press machines. Modern ceramics has also introduced the use of more raw materials into the clay body. It has also introduced many more techniques of production than is found in traditional pottery. This accounts for the differences in the methods used for the preparation of clay body or glazes for different maturing temperatures of the products.

It is not surprising therefore that at the inception of modern ceramics in Nigeria; most of the facilities and raw materials used (in Ceramic industries and studios in the country), such as processed Kaolin, Feldspar, Dolomite, Silica, Alumina, and all the colouring oxides, were imported from developed countries like Stock on Trent, Germany, China, and America. It was not until the year 1984 when The Nigerian Concord Newspaper reported the then minister of Trades and Industries of stating that "the Government would not continue to allow a situation whereby industrialists accept the importation of raw materials whose local substitutes could be developed". Since then government organizations, companies, and educational institutions went into research to find substitutes to some of the imported ceramics raw materials. In order to boost up research in this area, the Federal government apart from encouraging researches in institutions of higher learning, also set up three relevant research institutes in that area namely:

- (1) The Federal Institute of Industrial Research Oshodi (FIIRO),
- (2) National Steel council, Jos now (National Metallurgical Development Centre, Jos.) and
- (3) Project Development Agency, Enugu (PRODA).

In its bid to encourage the fabrication of equipment and other facilities which will be used in the production of ceramic products and other technical lines, the government set up National Development Councils (NDC) in some zones of the federation to support the engineering departments in Universities Polytechnics and Colleges of Education Technical. At the moment although there is a very high demand for ceramic products in the country, Nigerian ceramists are still in the experimental stage on the available raw materials around them. They are yet to come up with nationally acceptable standard clay

bodies and glazes from these abundant and locally available raw materials. A good percentage of the producing industries have not actually standardized their products, as they are still experimenting. At the moment because the consuming society is ignorant of how to grade the quality of ceramic products, any ceramic product in Nigeria as Ahuwan, (2011) noted is considered as pure by many citizens, and the process used in producing such product is considered as internally and externally purified as long as the product is to some extent reliable to its user and has some aesthetic values in terms of shape, colour, texture and also serves a particular function; the product is seen as possessing all the parameters of a good quality, so it is freely sold in the markets.

The Establishment of Ceramic Studios and the proliferation of Ceramic Industries in Nigeria

Following the effort made by the Federal government in seeing that substitutes to the imported ceramic raw materials used in Nigeria are studied, there was a marked increase in the number of small scale ceramic studios and industries in the country in the early 1980's. This was possible because of the increase in the number of people that need ceramic products, as many civil servants and the rich have changed their status and want to live like their colonial masters. This made investing in ceramic production a brisk business. The second reason was that people realized that all the raw materials needed for the production of ceramic products were readily available locally. This gave rise to the establishment of many ceramic small scale industries runned by the Better Life for Rural Women programme and some individuals in the early 1980^s. Ajala, and Sadiq (2007) noted that a ceramic graduate in the earl 80^s could establish a cottage ceramic industry as a footing stone for a larger one over time. The bottle neck faced by the women and the ceramic graduates was that of fund, as there was no scheme available for funding of such small and medium scale industries by the government.

The prevailing need for Ceramic products in Nigeria today is so much on all the different types of ceramics, which can be divided into three types, namely the household products, the sanitary and structural products, and the burnt bricks products. It is important to also

note that the producers range from small scale through medium scale business to large manufacturing companies which are located in scattered areas all over the country.

(a)The household ceramic producers:

The list of household ceramic producers established as a result of the introduction of modern ceramics in Nigeria ranging from one-man studio to cooperate organizations as listed by Gukas (1985) and Irabo (2007) include: Fetesco Pottery Co. Lagos; Abuja Pottery Centre; Okigwi Pottery Centre; Ekulu Pottery Centre; The Craft Pottery Industry Inyi; Ushafa Potter Abuja; Modern Ceramic Industry ,Umuahia; Bama pottery Bama; Marara Pottery Mararaba, Kaduna; Jakaranda Kaduna; Ikorodu Pottery Co. Ikorodu Lagos; Dajo Pottery Makurdi Road; Ivo pottery Taraba; Godiya Pottery Workshop Maiduguri; Ipetumodu Ceramic Company; Royal Ceramic Industry, Suleija; Kley Ceramic; Felesco Ceramic; Nigerian Enamelware Company Ltd, Lagos; The West African Household Utilities, Lagos; The Eastern Enamelware Company Lagos; Richware Pottery Limited, Illupeju; Porcelain ware Industry Ltd, Abeokuta; Ede Ceramic Company; Eleganza Ceramic Industry, Ajao Estate, Lagos; and many more one-man ceramic cottage industries located in different local government areas all over the country.

(b) Sanitary and structural clay products industries include:

The list of sanitary and structural clay product industries known to have existed in Nigeria include: Nigerian Industrial Products, Ibada; City Rainbow Tiles Factory, Aba; Construction Industry Company Ltd Apapa; Gazal Industrial Enterprises Ltd, Kano; Nigeria Mosaic and Tile Manufacturing Com.ltd, Ikeja. United Industry (Nig.) limited, Lagos; Clay Industry (Nig.) limited, Oregu, Lagos; Gerfex Nigeria limited, Apapa; F. Dabian and Sons limited, Kano; Kano Kiln Kano; Quality Ceramics Industry, Uyo; Super Ceramics Manufactures limited Ijebu; Ceramic Manufacturers (Nig.)Limited Kano; D'Alberto and Bougialla (tiles) limited, Kaduna; Nigeria-Halian Ceramics Co. Ifo, Ondo; Marble Terrazzo Flooring Coy, Ebute Metta; Niger Grob Company limited, Abeokuta; Emil (Eng; and Metal Industry Limited) Ijora Lagos; Merrimack Marble (Nig.)limited, Aba; Conduct Ceramics Anhara, Oweri; Grand Industry Company limited Kano; Sokoto

Synthetic Ceramic Industry, Sokoto; Floor tiles and Tableware Industry, Oyo; Floor tiles Ceramic Industry, Calabar; Benue Sanitary ware; and many more.(*source field study Oct 2012*).

(c) Burnt Bricks Ceramic Industries include:

Although burnt bricks have been in use among many communities have been using burnt bricks before 1980, The number of burnt bricks industries known to have existed in Nigeria as from the year 1980 include: The Borno .N.A. Brickworks, Maiduguru; Naraguta Burnt Bricks Jos; Benue Burnt Bricks Company limited; Arewa Ceramic Industry Misau; Federal Government Burt Brick industries situated in Maiduguri, Kano, Lagos, Kaduna, Ibadan, Akegbe-Ugwa and a host of others. Nwana (2007) asserted that over forty (40) ceramic industries where established in Nigeria between 1952 and 1980, but many of these ceramic industries did not last long.

Reasons behind the Collapse of Some of the Ceramic Industries

The reasons behind the collapse of very many of the established ceramic industries in Nigeria are many. Some are because the producers lack adequate science knowledge to master the many functions of the available raw materials within their reach, some are because they lack of adequate manpower to operate the equipment, and some are because the producers rely heavily on imported equipment and already processed raw materials for both body and glazes. Others are as a result of lack of good enough results from the locally fabricated equipment and facilities used in these small scale industries or studios as they could not properly process the crude and bulky raw materials. Some are as a result of the fact that the locally fabricated facilities could not produce enough and qualitative products that could compete favorably with those from the developed countries. As a result of all these things started falling apart. The medium and small scale ceramic industries did not find it easy going at all as a result, many became frustrated and closed the industries.

Ahula in Gukas (2007) noted that among the Ceramic small scale industries located in Benue state nearly all closed, the only exception is the Dajo pottery which was left alone to meet the ever increasing demands for household products from the general public.

Similarly the authors of this paper discovered that the Plateau state Sanitary and Tiles Ceramic Industry which was proposed in 1979 to start operation in 1981 could not take off due to some lapses from the foreign partners who could not provide the technical officers to manage the production. In another development, Ajala, and Sadiq (2007) found that out of about fifteen (15) local ceramic industries spread over Edo North, only four(4) are still producing and at a very low (small) scale due to lack of infrastructural facilities, negative economic policies, inadequate management.

Adelaja (2005) in Irabor (2007) noted that a good percentage of the talented indigenous Nigerian artists (including potters) are members of the financially poor families. This is an indication that many of the small scale ceramic industries in Nigeria are owned by financially poor people who are compelled to opt for crude facilities, which cannot properly process the abundantly available bulky ceramic raw materials for qualitative products. As a result they cannot therefore think of improving the quality of their products to compete favorably with those imported from the developed countries. As many of those who went into ceramic production were not very much knowledgeable in the field the well to do members of the society could not risk partnering with them to enable them get enough money to purchase standard equipment and facilities for better production. In short there is a general lack of trust.

Irabor (2007) listed some of the Ceramic industries that have closed production due to one or some of the problems mentioned above to include: Ikorodu Pottery Co. Lagos; Fetesco Pottery Co. Lagos; Modern Ceramics Umuahia - Abia; Richware Ceramics Industry, Lagos; Niger Grob Ceramis, Abeokuta; Ceramics Manufacturers Industry Kano; Quality Ceramics Industry, Uyo; Nigerian-Italian Ceramic Co. Ifo, Ondo; Eleganza Ceramic Industry, Ajao Estate, Lagos; Conduct Ceramics Anhara, Owerri; others include Bama pottery, Bama; Ipetumodu Ceramic Company; Shagamu Ceramics, Shagamu; Kley Ceramics ; It is surprising to note that even the seven burnt bricks Industries established by the Federal Government between 1979 and 1983 collapsed due to technical problems and poor management.

The few operational ceramics industries in Nigeria cannot meet the high demand for ceramics products. As a result of this, people still scramble for substandard ceramic products to buy. And the rich buy theirs abroad and causing unemployment in the country.

The high demand for the different kinds of ceramic products in Nigeria is on the increase but the production of ceramics in Nigeria is as if it has just started, hardly is there any ceramic product produced in Nigeria is enough for our local consumption talk less of exporting it. This situation has encouraged ceramic vendors to find ways of importing or smuggling substandard products into Nigerian markets. Kashim (2005) asserted that Nigerian markets are flooded with ceramic wares from foreign lands such as England, China and Ghana simply because of our lukewarm attitude to developing our local resources and the porosity in Nigerian boundaries. The custom officers are unable to trap all the ceramic items that come into the country. This has rendered Nigeria to be as a country without a standard for ceramic products. It is as if Nigeria does not have a strong established law regarding the production quality and importation of ceramic products.

A look at the Standards Organization of Nigeria (SON)

The Standard of any product can only be set when there is a production of some kind, this is why every country has a standard for all its products, and any country that pioneers a product hardly gets any country that has any standard that is too different. This is why standards are consensus all over the world most especially when it has to do with things that cannot be affected by weather such as electrical appliances and ceramic products. To monitor the standard of any product, will require a body that will see that the products are produced according to specifications. It is in the light of this that every country including Nigeria has a coordinating standard office. The Nigerian standard office is based in the Federal Capital Abuja, with 27 (state) or zonal offices located in Abia, Adamawa, Akwa-Ibom, Anambra, Bauchi, Benue, Borno, Cross River, Edo, Enugu(1 and 2), Imo, Kaduna, Kano, Katsina, Kebbi, Kogi, Lagos (1 and 2) Niger, Ogun, Ondo, Osun, Oyo, Plateau, and Rivers. Out of these, the food chemical laboratory is located in Lagos. The Electrical and

electronics laboratory is also located in Lagos. The Textile laboratory is located in Kaduna and the only Engineering laboratory is located in Enugu. These are the only specialized laboratories which Nigerian government has as places where the Standard Organization of Nigeria can test the standard of various groups of products such as: Toys, Electrical and Electronics, Automotive, Chemicals and Chemical Products, Construction Material and Gas Appliances, Food and Food Related Products etc.

From the list of laboratories above it is clear that Nigeria does not possess enough laboratories in all the 36 states that could be used in testing the electromechanical imaging of lead, the spectroscopy of ferroelectric, piezoelectric state of the materials used, or even to test the quality of the products for toxicity and tensile test for strength and durability, as a result any beautiful looking but substandard quality ceramic product is sold in Nigerian markets either as a piece of art work or household utensils. The supply of substandard ceramic products in Nigerian markets are in the increase as more and more people are in love with ceramic products and since only branded products are usually sorted for by the Standard Organization of Nigeria for test of quality to check whether or not the product is in conformity to Nigerian Industrial Standard (NIS), and to ensure a level play field in terms of quality for both imported and locally manufactured regulated products so as to prevent unfair market competition or make Nigeria a dumping ground for substandard products.

To help the Standard Organization of Nigeria achieve these objectives, the organization is working hand in hand with other organizations such as National Agency for Food, Drugs Administration and Control (NAFDAC), and the Nigerian Custom Service (NCS) to ensure that manufacturers and importers conform to the standing standards of all locally manufactured or imported goods. In her efforts to see that the manufacturers are encouraged to produce ceramic products in Nigeria from the abundantly available raw materials in the country, so as to get the opportunity of checking the quality of the products, the Custom Service of Nigeria has placed very high tariff on imported ceramic products whose

materials for production can be locally sourced and processed.

While all ceramic raw materials whether in their crude state or which have been washed by flotation, magnetic separation or other mechanical processes are charged 10% import levy and 5% VAT. But the sad aspect is that, you hardly find a trained ceramic specialist that checks the aesthetic aspect of the ceramic wares sold in the markets. As a result of this, we find a lot of substandard ceramics wares in our market. The success of these measures can only be possible if the following precautions recommendations below are taken:

Recommendations

- Nigeria should train her citizens in all the relevant aspects of ceramic and it should as a country import the relevant facilities that will enhance quality processing of her raw materials in order to encourage her citizens and even foreign investors to invest in the different kinds of ceramic products.
- Nigeria should do all she can to see that there is steady electric power supply in all parts of the country to enable industrialization take its rightful place in every state of the country.
- Nigeria should imitate what China and other Asian Countries did by closing her borders to the importation of all kinds of ceramic products to allow some in-house development.
- Nigerians need to be educated on the benefits of partnership investments so as to encourage the skillful ceramists who are financially handicapped to get the needed equipment to process the bulky raw material and also produce products that can compete with those from the developed countries.
- Geological survey of the available ceramic raw materials should be intensified so that the locations of the required raw materials can be known for the purpose of setting up of ceramic industries for mass productions.

- All ceramic ware producers should brand name their products; this will enable the standard organization officers to find out where they are so as to check on the quality of whatever they are able to produce. By so doing, any product without a brand name should be considered as fake and substandard.

Conclusion

The paper has noted that in Nigeria and any other country the world over, branded products are produced based on certain laid down standards that are always maintained. The paper has also noted that the factors that do contribute to the need for quality control of any product among nations and producers of any form of product are linked to: (a)The desire to maintain some level of monopoly of a better quality product from among others, (b)the producer must have acquired some significant level of knowledge in the use of both the available raw material and equipments that will enable the product face other products in a healthy competition, and (c) the need of the country or the producer to ensure that consumers or clients are not subjected to the use of any substandard product.

Based on these factors, the paper concludes that there are some things Nigeria is yet to achieve to be able to succeed in running a comprehensive standard for the ceramic products that are currently being sold in our markets, because Ceramic though more than fifty years old, is still as if it is in its infancy. A good percentage of ceramic producers in Nigeria are still learning to master the functions of the abundantly available raw materials simply because they lack the scientific knowledge of the materials and how to process these materials for qualitative products in terms of body and glazes. More to this is the fact that there are no modern facilities that will enable them produce products that will favorably compete with similar products from other countries. To the Nigerian ceramics consumers, anything that comes from another country no matter how bad it is in quality is a quality product.

Tariff placed on imported Ceramic products to Nigeria

ITEM	SUPPLY UNIT	IMPORT LEVY 2012	VAT
Building Bricks	500u	20%	20%
Roofing tiles	M ²	20%	20%
Ceramic pipes	M ²	20%	20%
Ceramic sinks	U	20%	20%
Wash basin/Baths	U	20%	20%
Tableware	Kg	20%	20%
Kitchenware	Kg	20%	20%
Glass beads	Kg	20%	20%
Glass wares	Kg	20%	20%

Source: Nigerian Customs Service Board Book- let 2008- 2012

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