MERITS OF KOREAN CERAMICS: LESSONS FOR NIGERIAN CERAMICS SUSTAINABILITY

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Abstract
All the principal ceramic techniques such as moulding, throwing, carving, applique, incising, openwork, inlay, glamorous and elegant shapes with fluid silhouettes, technique of sgraffito, with brilliant glazes were employed by the rich ceramic cultural techniques of Korean ceramics. Characterized by extraordinary technological innovation with unmatched Jade-green Celadon, the Koreans perfected their mastery of glazing from the Chinese. This paper gives a brief but in-depth advancement of Korean Ceramics from the Neolithic, the three kingdoms Period, Unified Silla Kingdom, and the Koryeo Dynasty. Applying lessons from Korean Ceramics is needed for the survival of Nigerian Ceramics. The need for every Nigerian potter and every patriotic citizen to sustain, revive and increase Nigeria's creative spirit in ceramics production is required for national growth and advancement.

Introduction
When the history or subject of world Ceramics is mentioned it is not possible to give a detailed history of ceramics technological advancement without the mention of the celadon. The Koreans excelled in their mastery learnt from Chinese export to the extent that Chinese began importing Korean pottery. China has no rival in combined length and richness of its ceramic history.

Basic Korean ceramics include: T'ogi (clayware) d'ogi (earthenware), Jagi (porcelain) and Onggi, a type of earthenware jar used for storing water or fermented food (Kyung- Sook 2008) Korean ceramics is distinct from other Asian pottery. Japanese pottery reflect the samurai culture, Chinese pottery are deeply rooted in palatial influences, large in size and rather gaudy in style, however, Korean ceramics exude a scholars spirit (www.seoulselection.com).

Bernard Leach (1887 – 1979) regarded as the father of British studio pottery and one of the significant and influential artist –potters of the 20th century, stressed that ceramists of the 20th century ought to learn the techniques of Joseon dynasty masters to truly proceed. The Korean Foundation accounts that Leach adopted the oriental as opposed to the western way of viewing ceramics, regarding a pot as a whole rather than emphasizing its separate aspects, such as glaze, colour, potting, and so forth.

Just as Nok Art culture influenced Africa and the rest of the world. Korean ceramics has inspired the world, traditional ceramics originated from China and later spread to Korea, Japan, Europe, and down to Africa. Kyung - Sook (2008) exerts that Korea is unrelenting and dogged to revive, maintain and secure its ceramics tradition; they exert themselves, with over 300 three hundred kilns in Icheon region, still producing the highest quality pieces with glazes, especially the jade–green of the Goryeo Celadon and

white porcelain produced during the Joseon Dynasty

Pre-historic

According to Kyung - Sook (2002) the most ancient Korean ceramics goes back to the Neolithic period (6000 – 1,000 BCE). Pottery became more relevant for funerary ceremonies, and became a symbol of status and wealth with the emergence of social class; pottery in the prehistoric period in Korea was produced to store grain and other purposes. The method of production was by using coils of clay and smoothening the surface with a paddle after which surface design were added by incising or combing, wares were bon-fired rather than in a kiln. Red and black black pottery burnished to a high polish is characteristic of the Bronze Age (Young -Sook 2002).

They were porous-type potteries fired at low temperature (approximately 700C). The comb pattern was the most popular design. The Iron Age (approximately 300 BC.) saw the apparition of the potter's wheel. Shapes and design became gradually more complex. Around those times also appeared the first ceramics with legs.

Three Kingdoms Period (57 BC. – 668)

The Three Kingdoms of Korea (57 BC-668 AD), namely Silla, Goguryeo, and Baekie, provided the beginning of Korean ceramic history. Rough domestic wares for the people were produced from numerous kilns. Likewise a number of very sophisticated statues of royal figures, guardians, and horses, equivalent to Chinese Han Dynasty figures, used for domestic and imperial votive shrines, as well as for escorts of the dead in tombs of the nobles and kings, were turned on potter's wheels, while others were formed using the traditional hammered clay and coil method. www.artsconnected.org/media//

Perhaps the variety of shapes and vessels with technical advances gave rise to the pottery of the three kingdom period. Pottery of this period had wide mouth and either legs or flat bases, developed tiles, bottles with four legs, ink stones, urinals and funerary urn. Potteries were fired in closed kilns, which created higher temperatures, resulting in stronger wares and different surface finish (from the lack of oxygen from the closed kiln). Two types of pottery are characteristic from this period: 'Yongil', which color is reminiscent of the Iron Age potteries and 'Wajil' which has a bluish-gray tint.

Paekche vessels also contributed to the development of pottery in Japan especially Sueki ware. Peculiar to the way the region displayed mounted cups, round based jars and tall stands with unusual pies such as pottery shoes, carts, horses, and ducks. While Silla vessels often had lids with sculptural pieces similar to the former, however, designs were incised on the surface or applied on relief ornaments.

Unified Silla Period (676-918)

During the Unified Silla period pottery took on a more suitable shape to befit its use for practical purposes in place of grave goods. Under the Buddhist influence, funerary urns were in demand and celadon was introduced. Pottery underwent many changes. Lidded recipients became popular and the feet of the vessels became shorter. Long-necked bottles and flasks also appeared, and the tall stem neck were shortened as well as flattened the rounded bottom.

The Goryeo Period

The Goryeo period is characterized by the predominance of Celadon. Celadon represents a major technological and conceptual shift in the history of Korean ceramics. The high-fired gray stoneware of the preceding Unified Silla Dynasty (668–935) and the Three Kingdoms Period (57 B.C.–668 A.D.) had set the stage for the manufacture of celadon, but the technology of the celadon glaze and of the kiln structure, adapted from China become an important element in this transformation, as do interpretive designs in form and decoration.

During the nearly five centuries of the Goryeo dynasty (918–1392), celadon constituted the main type of ceramics produced on the Korean peninsula. This exquisite ware typically appears gray-green in hue. The color of Goryeo celadon owes much to the raw materials—specifically, the presence of iron in the clay and of iron oxide, manganese oxide, and quartz particles in the glaze—as well as to the firing conditions inside the kiln.

Firing temperatures were commonly around, or below, 1150ºC, and the level of oxygen within the kiln was dramatically reduced at some stage of the firing; this is known as a reducing, rather than an oxidizing atmosphere. Goryeo celadon ranges from a plain, undecorated type to objects with incised, carved, mould-impressed, or inlaid designs, and to vessels embellished with colourful compounds like iron oxide (black or brown) and copper oxide (red), and also with gold (Soyoung 2003).

Joseon Period

Joseon ceramics had a spectacular edge over the Goryeo celadon due to the Buncheong stoneware and white porcelain of this period. Buncheong arose in the process of transition from the celadon to white porcelain. A vessel made of clay, which might then be painted with designs in copper glaze, inlaid or ornamented or finished with a rough bluish gray glaze derived from the celadon glaze before firing.

Nigerian Ceramics

The works of the colonial archaeologists in excavating most of the material evidence of pre historic times have proved that pottery making had been in existence in most parts of Nigeria dating to 3000BC. Pottery is one of the craft of ancient Nigeria that is still being practiced in most parts of the country to date. It is Nigeria's most cultural material.

The whole system of traditional pottery production always starts from clay prospecting to pot firing which is inexpensive and interwoven with the culture and religion. One can cook with it over a wood fire and it is very cheap. When used for storing water, the "insulating" native pot "perspired" and thus keeps the water at an ideal degree of coolness for human consumption. While contemporary Nigerian starts with throwing on a potter's wheel and or hand-building sculptural wares. The most familiar ceramic products include table wares, wall and floor tiles, sanitary wares, and decorative products like flower vases, etc. Currently, the global ceramic market will reach $408bn by 2018 with China as a key player.

History of Contemporary Nigerian Ceramics

Nigeria had her first contact with high fired products when Mr. D. Roberts introduced the use of potter's wheel, glazes and kiln at a training in Ibadan. In the 1930's K. C. Murray did considerable pioneering work with glazes and kilns. An Education Officer, Murray faced many problems and his programme did not progress particularly well (Na'Allah 2001).By 1950, the colonial government commissioned Matthew Cardew to investigate the availability of pottery materials in Nigeria. His report on the wealth of minerals for sustainable pottery production led to the establishment of three ceramic centres across the country; this includes the "Ladi Kwali Pottery Centre Suleja"

Cardew decided to start a production pottery industry based not on factories but on small scale craftswomen and to respect and defend the already developed traditional methods. Cardew warned that any attempt to interfere with the already – developed traditional methods would prove to be a total failure. Cardew's pottery program at Abuja did a good deal of pioneering work: it tested clays glazes, and built kilns and wheels, all using local raw materials.

Ahuwan (2003) and Na'Allah (2001) gave reasons why of ceramics education and development in Nigeria has been very slow. Is it possible to find solutions to sustain and grow the ceramic sector in Nigeria? Why has the commercial production of ceramics wares failed to thrive since it was introduced in the country a century ago, let us survey these factors.

Challenges Facing Nigerian Ceramics

According to Emefiele (2014) delayed payment of wages, redundant labour, poor reward system, labour management relations, low investment expenditure, poor infrastructure, low of training, low employment motivation, poor work environment, and lack of creativity and innovation are among several factors inhibiting the Nigerian productivity sector. He opined that these factors impede on economic growth. Akinyele (2007) categorized these factors into three, general factors -climatic, geographic distribution of raw materials, fiscal credit policies, adequacy of public utilities and infrastructural facilities (ii) organizational and technical factors – the

degree of integration, capacity utilization, size and stability of production; and (iii) human factors- labour management relations, wage, social and psychological factors etc. Some of these factors are discussed below with the Ceramics sector in view.

Importation of Foreign Ceramic Wares

In a statement on Harnessing Nigeria's Ceramic Resources in the Punch Newspaper on November 22, 2012, the Chairman, Apapa Branch of the Manufacturers Association of Nigeria, Mr. John Aluya, who spoke at a stakeholder forum in 2009" stated that about 50 containers of ceramic products come into the country daily, in spite of the availability of both raw materials and human capacity for production of quality ceramic products in Nigeria. Worse still, "some of the ceramic tableware imported from China may not be safe for human health." The prices of such products at times are quite cheaper than those produced within the country, Nigerians themselves; seem to place more value on imported goods.

Lack of Ceramic Materials and Equipment

There is currently no ceramic glaze manufacturing company in Nigeria and this presents a unique opportunity for entrepreneurs to meet this yawning need and contribute to the revival of Nigeria's moribund ceramics industry. In 2009 at the public presentation of ceramic glaze materials developed by staff of the Federal Institute of Industrial Research, Oshodi Lagos, the Director, Project Development and Design, FIIRO, Dr Patrick Irabor, stated that "the lack of primary raw materials processing industries is one of the major factors responsible for the failure of many indigenous industrial projects."

Low Political Will

In the 80s the nation spent billions of dollars on imported sanitary ware for the development of the Federal Capital Territory Abuja while local ceramics industries set up to produce those wares were shutting down at a period when they were under construction. It is instructive to note that although the nation set up 12 large-scale modern ceramic industries, in partnership with foreign technical partners to exploit the nation's vast ceramics mineral resources across the nation. Of this number, however, only one has survived the epidemic of closures that came upon the industry since the introduction of the Structural Adjustment Programme of the 1980s and this is in spite of the fact that nearly 100 per cent of required raw materials can be sourced locally.

Manufacturers Association of Nigeria (MAN) indicated that 834 firms closed down their operations in Nigeria in 2009, this are medium and small scale companies. In the past 20 years some private companies in Nigeria invested in ceramics manufacturing, however, many of those industries experienced little progress and could not compete favourably well with competitors with similar products, imported into the country (Business Day).

Redundant Labour

One pertinent issue slowing ceramics development in Nigerian is the fact that most producers and researchers are not 'motivated' to pursue their ambitions in ceramics manufacturing business. Akinbogun (2009) in his research on the waning state of pottery in in South-Western Nigeria states that the spatial distribution of industries as well as the performance is determined by different factors. He observed that geographical location, educational attainment, Gender lopsidedness, lack of originality/value and knowledge of consumer behavior among ceramic wares producers has adversely affected productivity. He added that the time committed to production by manufacturers or small-scale ceramic producers is not good enough for profitability of the venture.

Poor Training and Appropriate Technology

A recent UNESCO Country Report on Nigeria (EFA 2000 Assessment) pointed out that only 4.7 per cent of art lessons are provided in Nigerian public schools due to failure of the school authorities to provide learning materials and a general lack of interest. The curriculum for the teaching of art in public schools has not been published since 1976 and there is dearth of 'teacher's guides to classroom art' at primary level. The link is that these same pupils end up studying art and design courses without any goal in

view, in a nutshell without "any future ambition".

For those who desire to practice, many lack motivation and appropriate knowledge to operate optimally. The need to provide hands-on- training at our CeRAN conferences is long overdue. Training should be lifelong and not one-off, if productivity in the ceramics sector would be resuscitated.

Poor Infrastructure

The painfully slow retrogression is also due to the poor infrastructural development in roads, electricity, portable water and other difficulties which have brought about the closure of several industries. It is a huge shame that Nigeria despite its acclaimed position as "Giant of Africa" cannot consolidate and sustain her economic and industrial base. In a nutshell our leadership shares the larger blame for this industrial problem.

Poor work environment with obsolete machines and materials make work hectic and extremely cumbersome, and produces redundancy. This glaring lack is seen in both our higher institutions and private companies. The need for the Nigerian ceramicists to operate with global best practices is inevitable. Emefiele (2014) exerts that poor infrastructure makes the work environment un-conducive for the enhancement of labour productivity. Hours of productive time and work are wasted in organizations because of erratic electricity supply. More so, most employees do not have work tools to boost productivity. All these tend to stifle innovation, creativity and potential output.

Lessons from Korean Ceramics Art for Nigeria's Sustainable Growth

To revitalise Nigeria's moribund ceramics sector we may need to learn certain factors from the Korean model to increase our industrial growth. From general organization to high quality production, government investment, the roleof religion, capacity building and legendary movement of ceramics to generations is evident in Korean ceramics history.

Korean ceramics grew as a result of influence of Chinese ceramics coupled with Goryeo's own astounding technological advancement; even though Korean ceramics passed through three phases, the initial founding stage which was the establishment of its outstanding shape, the middle stage – characterized by classical elegance and splendor and the declining stage –which was due to numerous invasions, their ceramics remained exceedingly high in value because of their beauty and uniqueness.

Korean Spirit of Innovation (Organization)

Korean potters capitalized on the already established unique style to maintain the Korean spirit of innovation. Each phase came with few changes but built on the same principles of design. The craftsmen worked under a roaster employment system, under which certain potters worked in designated kilns. Vessels were also prepared for special events such as royal ceremonies and auspicious rites at royal tombs. The immaculately white and perfectly shaped porcelain ware evidenced by masterpiece grapevine decoration painted in under glazed iron. The construction of private kilns was later encouraged, it was however government that specially managed the kilns at Gangjin area for production of ceramics for the monarchy and the court. Although technological advances constantly redefine the ceramic industry, Korean ceramic artists strive to preserve the tradition of peace, simplicity, and spiritual temperance of Korean art.

Kon (1994) states that if the spiritual aspect of an art form changes it loses its meaning. Modern Nigerian ceramics is losing its place due to lack of a defined Nigerian style or spirit; we need to select motifs and art styles of the past that will distinguish our wares in the midst of other ceramicists African and globally. Today, it is easy to recognize our traditional pottery but not our contemporary ceramics!

Economic Achievement

Korean contemporary art began to engage the world and its art form in the late 1980s and 1990s were truly a revolutionary era of cultural evolution, Korean contemporary art made giant leaps forward, riding on the art market boom, and the number of collectors with refined tastes. As a consequence, sales of works by Korean and foreign artists have

soared, as has the Korean public interest in major art fairs. (www.korea.net).

Religion
Ceramics tradition in Korea from antique techniques to contemporary innovations is backed up by the people's culture, religion and kingship. Yunjeong (2013) writes on the profound influence religion had in promoting Goryeo celadon, the symbols of Taoism, Buddhism, or Confucianism were inscribed on celadon. Typical of Taoism are their figurative celadon while Buddhist paintings and scriptures on gold painted celadon

Quality
Illhoe (2012) describes the best of Goryeo inlaid celadon as breathtaking in its splendid presentation of clean form, vibrant design, and subtle yet alluring color combination of white, black, and green. The ordinary and high quality of Goryeo celadon tiles were not for use of the common people. We see in early Goryeo potters a conscious emulation of certain stylistic features of Chinese wares—such as the shapes of bottles and bowls, and standard decorative motifs including lotuses, peonies, flying parrots, and scenes of waterfowl by the pond. By the mid-twelfth century, Goryeo potters and patrons turned to articulating native tastes. The attitude of Nigerians to high quality wares requires high quality made-in - Nigeria goods enabled by good designs.

Investment in Commercial Production of Ceramic Materials
Today, ceramic production has waned, however, there exist the center of modern celadon production and of revivals of Goryeo traditions. Incheon has a history of ceramic culture that began over 5000 years ago and has a reputation for its internationally renowned ceramics cultural events. Incheon is the home of over 350 studios and potteries that specialize in traditional, contemporary, and high-tech applications of the ceramic body. If Nok Art museum becomes a functional centre for the study of Nok terracotta, it will not only boost tourism but further research.

Capacity Building
A society develops economically as its members increase jointly their capacity for dealing with the environment. This capacity for dealing with the environment is dependent on the extent to which they understand the laws of nature (science), and on the manner in which work is organized (Ansley 1975).Korean Government has also created support programs for artists. Since the 1990s Korea has hosted several international art/ceramic festival and conferences, worthy of note are the Incheon, Yeosu and Gyeonggi International Biennales. Through these events capacity is built and income generated from thousands of tourists, researchers and students who come from all over the globe.

Research and Documentation
Koreans investment is seen with major art and or ceramics journals, dictionary of Korean Art and Archaeology. Over 300 Museums, In Incheon, Yeoju, Buncheong in the Mungyeong area, traditional Korean ceramics can easily be found at antique stores of Seoul's Insadong or Jangan Pyeong. Ceramics at the celadon research center in Gangjin the heartland of celadon production in the Goryeo period. Whilst at the Haegang Ceramics Museum in Icheon reproduction of white porcelain is on-going.

Recommendation
The need for government/ceramic researchers and art historians to document Nigeria's pottery making and contemporary ceramics history in a book is long overdue. The following recommendations should be subjected to scrutiny and brainstorming to bring out a blueprint and strategic plan for Nigerian ceramics development in the next ten years.

CeRAN should seek to be recognized as a professional body. There is the need to register and work in collaboration with Government in the Ministries of Science and Technology, Mines and Solid Minerals, Tourism And Culture, Trade and Industry.

Ceramists should lobby for support and work extensively on Nok or other two art traditions so as to secure UNESCO world heritage site for the sake of its outstanding value to humanity.

The need to teach and include Korean Ceramics Studies to our ceramics history courses in all tertiary institutions in Nigeria

will widen the scope of our student and give them a better world view. Organize training and re-training in Nigeria in collaboration with Korean Foundation, Korean Ceramic Foundation and museums. Inviting Icheon Ceramics Masters for demonstration workshop

Let us take the bull by the horn! By hosting the first international ceramic art conference in Nigeria and expose our researchers/graduate students to international exchange visits, and internships around the world.

In view of the fore-going we should set up the following three committees

1. Preservation and Revival of Nigerian Ceramic Design/History
2. Ceramics Learning/Tourism and Industries
3. Capacity building/Research

Conclusion

This paper shows Korean ceramics production spirit which is embedded in preservation, revival and production of the celadon to date. It gives me the impetus and courage that our rich ceramic heritage will not die. This is the main driving force behind writing this paper, with a strong desire for replication in our country for the benefit of growing our economy In view of out rear privilege of being custodians of renowned Nok and Igbo Ukwu Art.

Former United States of America President, Bill Clinton, once said that “The solution to Africa’s problem lies within” This is a reality we must come to terms with: It is our duty to look inwards to explore and exploit our natural resources and harness the bountiful yet largely untapped potential of the country’s ceramic industry. Through strategic investments and collaborations between the government and the private sector, we would ultimately create sustainable industries and mitigate poverty.

Artists or ceramists in Nigeria are no longer the unique, high-and – mighty creator of art. Other professionals have infiltrated our profession and practice. Therefore, the need for us to be project planners, information and data – collecting and analyzing researchers and mediators who connect with groups, organizations and communities in Nigeria and abroad with a common thread. CeRAN need to make continued effort to narrow the gap between ceramic art and its viewers, we are being required to be “super players” in preserving and reviving Nigeria’s pottery history, practice and export.



Plates 1a – 1e: Korean Ceramics Source: American Museum of Ceramic Arts



Plate 2: Comb-pattern vessel; Neolithic period 4000-3000BC



Plate 3a: Long-necked Jar
Source: Korean Ceramics

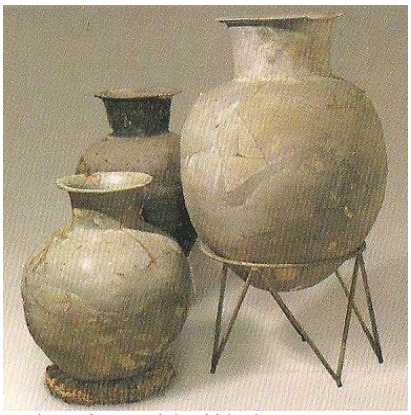

Plate 3b: Burnished black – gray Pots
Source: Korean Ceramics

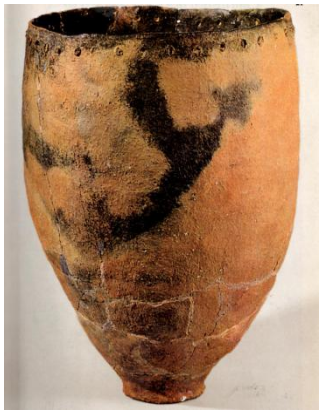

Plate 3c: Combed Patterned Pot
Source: Korean Ceramics



Plate 4a: Vessel in the shape of a mounted warrior; Source: Handbook of Korean Arts



Plate 4b: Pottery shoes; Source: Handbook of Korean Arts



Plate 4c: Silla Vessel Stand-Gaya; Source: Handbook of Korean Arts



Plate 5a: Sancai Three Colour Cinerary Jar; Source: Korean Ceramics



Plate 5b: Outer Cinerary Jar; Source: Korean Ceramics



Plate 6a: Celadon Maebeyeong Source: Journal of Korean Art & Archaeology



Plate 6b: Celadon Incense burner Source: Journal of Korean Art and Archaeology



Plate 6c: Celadon Long necked bottle Source: Journal of Korean Art & Archaeology



Plate 7a: Celadon with incised and carved design of geese, water birds and reeds
Source: Korean Ceramics History



Plate 7b: Goryeo Dynasty c. 1100
Source: www.artconnect.org



Plate 8a: Gold-painted celadon Joseon Dynasty 15th Century

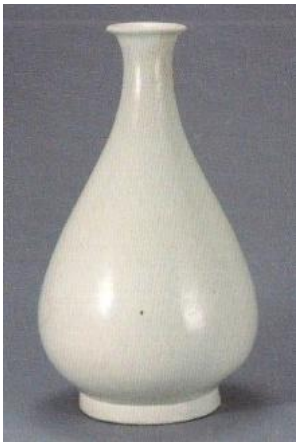

Plate 8b: White Porcelain Bottle



Plate 8b: White and Blue Porcelain Jar



Plate 9a: Nigerian Traditional Pottery;
Source: www.studiopottery.com



Plate 9b: Nigerian Traditional Pottery;
Source: www.studiopottery.com



Plate 9c: Nigerian Traditional Pottery;
Source: www.studiopottery.com



Plate 9d: Nigerian Traditional Pottery;
Source:www.studiopottery.com



Plate 10a: Contemporary Nigerian Pottery; Source: Dajo Pottery Limited Benue State



Plate 10b: Contemporary Nigerian Pottery; Source: Dajo Pottery Limited Benue State



Plate 10c: Contemporary Nigerian Pottery; Source: Dajo Pottery Limited Benue State

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