# **Recapturing the Spirit in Ancient Cooking Pots**

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#### Abstract

Cooking pots have been important in understanding ancient social and technological environments. In Ghana, the traditional cooking pot is a common sight in most rural communities; same can however not be said in the urban areas. This study thus revisits the traditional cooking pot, investigating its physical characteristics and its relevance in the modern Ghanaian society. The study was descriptive, using primary data collected from 222 respondents selected from selected pottery centres in the Ashanti Region of Ghana. Both descriptive and inferential statistics were used in analyzing the data collected from the respondents with the help of the statistical package SPSS (version 22). The study established that the earlier techniques used in developing the traditional cooking pots stood the rigorous demands on their materials' durability, making them survive for several centuries as evidenced by some archeological findings of early pottery products. The study also established that the ancient cooking pots had better fracture strength with higher ability to survive impact. It was observed that ancient cooking pots had better thermal conductivity and demonstrated higher skill level. However, the study observes that the traditional cooking pots have reduced in both purpose and symbolism and subsequently reduced in current usage. The study identifies the traditional cooking pot's weak aesthetic appeal as a main factor driving its dwindling relevance. The study recommends the need for the pottery industry as a whole to be developed through a systematic integration of an improved quality of the various class of pottery product into societal demands and deliberately positioned to attract the needed patronage across the various societal engagements and needs.

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## 1. Introduction

Pottery is a concept that resonates with the people of Africa. It is a craft that converts clay materials into wares for various purposes. The dexterity of the potter is brought to bear in his/her ability to transform the clay into the desired final form. Legends speak of the great skill and knowledge with which the people of old worked with clay to perfection. Major products of pottery have, from time immemorial, included earthenware, stoneware and porcelain. Historical accounts have shown that pottery has always been part of human activity (Gosselain, 2000), and earthenware in particular has been described as being among the first inorganic material invention of humans. Mark (2020) traces the origin of earthenware to a period preceding the Neolithic period. Craig et al (2013) talk about Japan as being the origin of the oldest recorded evidence of pottery in the world currently, traced to the period (15 300–11 200 cal. BP) described as the Jōmon period.

Asante et al (2015) rightly state that the art of pottery is embedded in the traditions and culture of the people, as well as their environment. Their survival rate in archeological context, as well as being some of the earliest manmade inventions has been critical in unearthing ancient societies from different parts of the world (Wallaert-P être, 2001). Pottery's role in uncovering functional and typological issues, provenance and chronology have been highlighted severally (Walde et al., 2000). The argument that pottery has been critical in knowing man's history can therefore be significantly justified.

A distinctive and common functional group of pottery recorded in history are cooking pots. Cooking pots have been important in understanding ancient social and technological environments. In Ghana, cooking pots are a common sight in most rural communities; same can however not be said in the urban areas. The reasons for such disparity are not far-fetched; the typical uses of the cooking pot in recent times, mostly medicinal and occasional traditional menus, have been limited to the rural areas, a situation that is sharply contributing to a potential extinction of this class of pottery. Further to its dwindling relevance, the cooking pot until recently, have been one of the overlooked classes of pottery because of its weak aesthetic appeal (Müller et al., 2012). The recent attention it has received is credited to advances the field of archeological sciences have made (Hein et al., 2008; Hein et al., 2015).

The above makes evident that there is the need for heightened research interest into ancient cooking pots to reinforce and sustain its relevance in our culture and protect its critical contribution to the knowledge of ancient social and technological environments. This study thus revisits the ancient cooking pots, bringing into perspective its historical developments, properties and attributes, and the place it occupies in modern pottery. Specific objectives include examining the relative strength, technology, difference in use and current relevance of ancient cooking pots in the Ghanaian culture. The study is not only meant for the academia and industry

professionals, but for all manner of persons rapt by historical pottery, pottery materials and production techniques of ancient pottery

#### 2. Literature Review

## 2.1 Historical Developments of Pottery in Africa

A part of human civilization is the knowledge and ability to transform clay as an earthly material into pottery. In Ghana, and Africa in general, pottery emerged from the various societies in different environments independent of each other (Huysecom et al., 2009). Sahara and the Nile Valley were the origins of early evidence of pottery in Africa (Jesse, 2010). Some accounts trace the development of pottery in Africa to the hunter-gatherer-fishing communities (Sadr & Sampson, 2006). Some of the early finds of pottery in Africa include the Egyptian El Adam ceramics, around 9800 BP (Nelson et al. 2002, Huysecom et al., 2009), the region of Nabta Playa-Kiseiba in the east of the Sahara to the period 10000-9000 cal. BC during the time of the Holocene (Jórdeczka et al., 2011). Lithic and ceramic finds dating from the 9400 cal. BC have also been excavated in Mali (Huysecom et al., 2009). Jesse (2010) also refers to the pottery sherds of Bir Kiseiba and Adrar Bou and Tagalagal, in the eastern and central Sahara respectively. In Ghana, evidence of pottery in the Kintampo culture (Posnansky, 2015; Boachie-Ansah, 2013; Dombrowski, 1976) and Tema West (Nygaard & Talbot, 1984) have been documented.

#### 2.2 The Technology of Pottery Production

Early evidence of indigenous pottery show that hand modeling techniques were largely used in the manufacturing of pottery products. However, technique and style of pottery varied from region to region. Traditionally, pottery was the preserve of women in some societies, and considered an abomination for men to engage in (Nygaard & Talbot, 1984). Knowledge transfer of the art of pottery occurred through informal apprenticeship of mostly close family or children of the potter. In the periods of old, pottery was not an industry that required or used sophisticated technique or tools. Simple tools were used at great skill for techniques such as incisions, burnishing, and smoking (Humphrey, 2006). Modern equipment such as refractory kilns and extruders were not known to ancient pottery. What stood out rather had more to do with the skill and mastery than the sophistication of the tools and equipment used. Another significant production feature of pottery was its low firing at temperatures that were low (600°C - 850°C) and offered no glazing. Although without sophisticated technology, pottery products, researchers such as Phillipson (1993), refer to observed changes in pottery from what used to be thick-bodied wares to thinner wares. Garlake's (1983) account suggest that gender role changes in the production may be one of the factors contributing to such production differences.

#### 2.3 Cooking Pots and its Historical Uses

Just like the case of most histories of technology, the technology of cooking pot is complex and varies among the various cultures. The desire to study ancient cooking pots is significantly linked to the understanding of the societies within which they were produced and used. Their association to particular cultures is related with the observation that cooking pots were an integral part of cooking practices and often helped established a behaviour pattern in defined food culture which contributed largely to identifying certain cultural practices (Vionis et al., 2010; Spataro & Villing, 2015).

Pots have traditionally served several purposes. In the words of Asante et al (2013), "Pottery plays a very important role in the indigenous culture of most ethnic groups in Ghana". Asante et al (2015) have emphasized same, adding that traditional pottery promotes the education, conservation, and transmission of the cultures and norms of a people. Specifically, among the notable uses of ancient cooking pots is the cooking and holding of food. Apart from foods that required roasting or grilling, cooking was done mostly in the pots. Additionally, the pots were effective in the storage of foods. Cooking pots are also known to have been used in the preparation of medicines in various traditional settings. Insoll (2011) allude to evidence of the use of pottery in the preparation of pottery sherds in the area (Insoll, 2011). Recent observation of the use of cooking pots suggests that its purposes have not changed much, although the level of usage does not appear that popular with the current generation.



Figure 1: A Collection of Ancient Cooking Pots form Different Cultures

# 3. Research Methodology

Ancient Cooking Pots

## 3.1 Research Design

This study revisits the ancient cooking pot, bringing into perspective its historical developments, properties and attributes, and the place it occupies in modern pottery. The descriptive research design was employed in undertaking this study.

## 3.2 Type of Data Used and Data Collection Method

The study used primary data to address the various objectives set out. Questionnaire was used in collecting the relevant data form the respondents. The questionnaire was largely structured to allow for standardised responses to facilitate data analysis. In addition, the observational technique was also used to gather other relevant information that the questionnaire could not collect.

#### 3.3 Population, Sample Size and Sampling Procedure

222 respondents were selected from selected pottery centers across the Ashanti Region. Key among the centres include Afari, Mfensi, Pankrono, Tafo-Dompoase. The centres were selected purposively. The distribution of questionnaires was uneven, given that some centres had larger population than others and therefor more respondents were picked form those centres,

## 3.4 Data Analysis

Both descriptive and inferential statistics were used in analyzing the data collected from the respondents. Respondents' demographic characteristics were analysed using descriptive statistics. In addition, hypotheses

were developed and tested using the standard normal distribution at a critical value of 1.96. Data analysis was aided the statistical package SPSS (22).

## 3.5 Ethnography of the Study Area

The Ashanti Region with a land surface of  $24,389 \text{ km}^2$  (9,417 sq mi) is located in south Ghana Population wise, the region is the most populated with a populace of 4,780,380 as indicated by the 2011 census, representing 19.4% of Ghana's overall population. The Ashanti Region is known for its significant gold bar and cocoa production. The biggest city in the region is Kumasi, which is also its capital city. The Ashanti Region lies between longitudes 0.15W and 2.25W, and latitudes 5.50N and 7.46N. The region is bounded by six of the sixteen political regions, Bono, Bono East and Ahafo Regions in the north, Eastern Region in the east, Central in the south and Western Region in the South west. The region comprises 27 districts.



Map of Ashanti Region

Figure 2: Map of the Ashanti Region

#### 4. Results and Discussions

The results and subsequent discussions have been placed under the relevant headings to facilitate clarity of presentation and discussion. Presented in Table 1 below are results for the demographic characteristics of respondents. The table shows gender, age, educational level, experience, and reasons for entering the pottery industry as the variables analysed to understand respondents' background.

Table 1 Demographic Characteristics of Respondents							
Gender of Respondents	Frequency	Percentage					
Male	61	27.5					
Female	161	72.5					
Total	222	100.0					
Age of Respondents	Frequency	Percentage					
Less than 30 years	4	1.8					
31-40 years	7	3.2					
41-50 years	97	43.7					
51-60 years	92	41.4					
more than 60 years	22	9.9					
Total	222	100.0					
Level of Education	Frequency	Percentage					
MSLC/BECE	109	49.1					
WASSCE/SSCE	94	42.3					
Diploma	19	8.6					
Total	222	100.0					
<b>Years Spent in the Industry</b>	Frequency	Percentage					
6-10years	28	12.6					
11-15 years	63	28.4					
16-20 years	43	19.4					
more than 20 years	88	39.6					
Total	222	100.0					
<b>Reasons for Entering the Industry</b>	Frequency	Percentage					
Lucrativeness	45	20.3					
Family Tradition	136	61.3					
Accidental	19	8.6					
Community Exposure	22	9.9					
Total	222	100.0					

Table 1	Demographic	Characteristics	of Respondents
I adic I	Demographic	Character istics	of Respondents

Source: Field Data (2020)

The results displayed with respect to gender of respondents show that the industry is dominated by women (72.5%) compared to the men (27.5%). This is not a significant departure from the observed trend since the industry began. In certain centres like Tafo Adompom, it was recounted that the pottery centre there had only women potters until recent participation by males. This finding supports the claim by Nygaard and Talbot (1984) that pottery used to be the preserve of women in certain culture in the ancient days and considered an abomination for men to participate in. Analysis on respondents' age, also reveal five age categories: less than 30 years (4 or 1.8%), 31-40 years (7, representing 3.2%), 41-50 years (97, representing 43.7%), 51-60 years (92, representing 41.4%) and more than 60 years (22, representing 9.9%). As per the frequency distribution, it is evident that the age groups 41-50 years and 51-60 years are the two dominating age groups among the respondents. The second observation is that the industry is also associated with both the younger generation and the older generation. Although a paltry 1.8% were found to be below 30 years, previous studies suggest a predominantly adult population in the pottery industry. At the end, the 9.9% respondents aged over 60 year suggests the industry can sustain interest beyond the average productive age bracket; a reason that should attract the needed support to expand its viability and contribution to Gross Domestic Product (GDP). Respondents' education, captured as the third variable on the table, shows that only 8.6% had tertiary level education, the remaining 91.4% had not been educated beyond the WASSCE/SSCE level. It is significant to point out, however, that none of the respondents reported having no formal education. Analysis of respondents' level of experience in the industry suggests that all the respondents had spent a minimum of six years in the industry. About 87.4% had spent a minimum of 11 years in the industry, this is important for the reliability of data collected for the study. The final variable on the table describes the reasons reported by respondents for entering the pottery industry. The results reveal that 20.3% of the respondents were attracted to the industry because of its lucrativeness while the majority (61.3%) inherited it as a family tradition. 8.6% consider their entrance to the industry as accidental with the remaining 9.9% indicating that they were attracted through the level of

community exposure to the industry. A cursory analysis of the reasons ascribed by the respondents suggests that the pottery industry has been sustained significantly through generational transfer of knowledge as a family tradition. This position has been acknowledged by (Humphrey, 2006) who suggest that knowledge transfer of the art of pottery occurred through informal apprenticeship of mostly close family or children of the potter. The need for formal apprenticeship training is proposed as better option of enhancing quality, innovation and sustainability of the industry.

## 4.1 Contemporary Scenario of the Production and Market of Cooking Pots

The study sought to establish the current production and market of cooking pots, and potters' knowledge and appreciation of the ancient cooking pots. This was to facilitate a contextual appreciation of the ancient cooking pot. Figures 1 to 4 below contain the results of some variables tested under this objective.









Figure 5: Source: Field Data (2020)

Figure 6: Source: Field Data (2020)

On figure 3 above, it is seen that about 97.3% of the respondents still produce cooking pots as part of the class of pottery products they produce; only 2.7% suggested otherwise. It is an indication that cooking pot as a class of pottery products is generally still in production. It is shown in figure 4 that 87.8% of the respondents actually had some cooking pots in their stock. Further, analysis of their production strategy as depicted on figure 6 reveals that 10.8% of the potters produce cooking pots on demand while 89.2% produce to stock. Figure 5 finally also explains the potters' knowledge level of the ancient cooking pots. From the figure, it is seen that 21.2% boast an excellent knowledge of the ancient cooking pots while the remaining 78.8% reported having a good knowledge of the ancient cooking pots.

On the basis of these responses, table 2 below presents a descriptive statistics of the four variables. The table makes important revelations relative to the descriptive statistics of each variable in the table.

			Descript	ive Statist	tics				
	N	Minimum	Maximum	Mean	Std. Deviation	Skew	ness	Kurto	osis
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Are cooking pots part of your production?	222	1	2	1.03	.163	5.873	.163	32.789	.325
Production Strategy	222	1	2	1.89	.311	-2.541	.163	4.499	.325
Do You Have Cooking Pots in Stock?	222	1	2	1.12	.328	2.331	.163	3.465	.325
Knowledge of Ancient Cooking Pots	222	1	2	1.79	.409	-1.421	.163	.019	.325
Valid N (listwise)	222								

Source: Field Data (2020)

Each of the mean values recorded is statistically significant, an indication that they were generally accepted by the respondents. The standard deviation recorded in each case is significantly low (between 0.163 and 0.409), an indication that dispersion was low with much of the data being concentrated around the mean. Further analysis of the results show that two of the variables (Are cooking pots part of your production? And Do You Have Cooking Pots in Stock?) had their distribution right skewed (skewness is greater than + 1.0) while the remaining two variables (Production Strategy and Knowledge of Ancient Cooking Pots) also had their distribution left skewed) (value is less than -1.0). Again, analysis of the Kurtosis, which for a normal distribution is 0, shows that all the variables recorded a leptokurtic distribution (test values greater than +1) with the exception of the variable Knowledge of Ancient Cooking Pots statistic of 0.0.19, which is less than +1.

The results on the current scenario of the production and market for the traditional cooking pots suggests that the traditional cooking pot is still in production, albeit with a modernized feel. However, it is evident that the cooking pot is not being produced by all the potters, although a significant majority (97.3%) have it as part of their class of products. Again, the observation that some potters (10.8%) produce the cooking pot on demand suggests that the market for it may be losing its viability.

## 4.2 Attributes of the Ancient Cooking Pots

The attributes of ancient cooking pots were examined under certain key characteristic and performance expectations. These included the relative strength, technology, difference in use and relevance and patronage. The findings recorded under each of these areas are presented and discussed below:

## 4.3 Relative Strength of Ancient Cooking Pots

One of the key objectives of the study was to assess the relative strength of the ancient cooking pots compared to those in current production. To achieve this three hypotheses were developed and tested using the standard normal distribution at a critical value of 1.96. Critical values are fixed by virtue of the fact that they correspond to  $\alpha$ , thus choosing the test's  $\alpha$  makes them fixed.

For each test, P<sub>1</sub> represents the proportion of 'Agree Responses'

P2 represents the proportion of 'Disagree Responses'

In each test carried out, the Z test and the critical value determine the decision to accept or reject the hypothesis. If the Z test and the critical value are equal at a significant level of 5%, the Null Hypothesis (H<sub>0</sub>) is accepted. On the other hand, if the Z test and the critical value are not equal at a 5% significance level, the alternative hypothesis (H<sub>1</sub>) is accepted

$$Z = \frac{P_1 - P_2}{\sqrt{\frac{P_1 q}{n}}}$$

Where:  $q = 1 - P_1$ 

n= sample size

$S_I$	$H_0$	Ancient cooking pots do not have better fracture strength	
	$H_1$	Ancient cooking pots have better fracture strength	
$S_2$	$H_0$	Ancient cooking pots do not have higher ability to survive impact	
	$H_1$	Ancient cooking pots have higher ability to survive impact	
$S_3$	$H_0$	Ancient cooking pots are generally not more durable	
	$H_1$	Ancient cooking pots are generally more durable	

#### Table 3: Research Hypothesis on the Relative Strength of Ancient Cooking Pots

The test results for all three hypotheses, indicated in Table 4 below reveal that the critical value and the test statistics are not the same. While the critical value is 1.96, the test value (z) was  $S_1$  (61.52),  $S_2$  (46.61), and  $S_3$  (4.89S). This provides the grounds to accept the hypothesis. The verdict on the three hypotheses tested define the relative strength of the ancient cooking pots. It is established in the test that the ancient cooking pots had better fracture strength with higher ability to survive impact and generally more durable. Table 4 Test Results on Research Hypothesis on the Relative Strength of Ancient Cooking Pots

		<i></i>	Standard Narmal Distribution (7)	0	Vandiat
Statements	$P_1$	$P_2$	Standard Normal Distribution $(z)$	Critical Value	Verdict
$(S_i)$					
$S_1$	0.950	0.05	61.52	1.96	Accept
$S_2$	0.909	0.0091	46.61	1.96	Accept
<b>S</b> <sub>3</sub>	0.927	0.073	4.89	1.96	Accept

Tite et al (2001) have posited that pots should not crack under its load or content. This will however depend on their ability to endure an unremitting load or stress, a characteristics determined by their modulus of rupture or fracture strength. Additionally, when temperature changes or there is an impact, pots must be able to survive it without cracking. This will also be a function of their toughness and resistance to thermal shock, which also depends on the pot's thermal conductivity and thermal expansion of its walls (Tite et al, 2001). It is inferred from the results that ancient cooking were superior in modulus of rupture or fracture strength.

## 4.4 Technology of Ancient Cooking Pots

The second set of hypotheses tested was to establish the strength of technology employed in the production of ancient cooking pots compared to the current ones. As indicated on table 5, the three hypotheses were developed and tested using the standard normal distribution at a critical value of 1.96. Table 5: Research Hypothesis on the Technology of Ancient Cooking Pots

$\overline{S_I}$	$H_0$	Ancient cooking pots did not have better thermal conductivity
	H <sub>1</sub>	Ancient cooking pots had better thermal conductivity
$S_2$	H <sub>0</sub>	Ancient cooking pots did not use superior technology
	$H_1$	Ancient cooking pots used superior technology
$S_3$	H <sub>0</sub>	The skill level of ancient cooking pots was not higher
	$H_1$	The skill level of ancient cooking pots was higher

As indicated on table 6 below, the results recorded for all three hypotheses show the test statistics to be different and not the same as the critical value. At a critical value of 1.96, the test value (z) recorded for each of the three hypotheses were  $S_1(45.39)$ ,  $S_2(0.536)$ , and  $S_3(61.52)$ . Based on the results, all three hypotheses were accepted. It is the interpretation of the results that ancient cooking pots were superior in technology and had better thermal conductivity and demonstrated higher skill level.

Statements (S <sub>i</sub> )	$P_{I}$	$P_2$	Standard Normal Distribution $(z)$	Critical Value	Decision
<b>S</b> <sub>1</sub>	0.918	0.082	45.39	1.96	Accept
$S_2$	0.509	0.491	0.536	1.96	Accept
S <sub>3</sub>	0.950	0.05	61.52	1.96	Accept

 Table 6: Test Results on Research Hypothesis on the Technology of Ancient Cooking Pots

The performance characteristics of cooking pots such as shock resistance and toughness have been linked to specific material and design technology adopted to make the outcome of the product desirable (Tite &

Kilikoglou 2002). The ability of the cooking pot to fulfill performance expectations provides the context to advance its technological choices. In this study, it has been established that the earlier techniques used in developing the cooking pots stood the rigorous demands on their materials' durability, making them survive for several centuries as evidenced by some archeological findings of early pottery products.

## 4.5 Difference in Use of Ancient Cooking Pots

The third set of research hypotheses tested were aimed at establishing the difference in use of ancient cooking pots. Following a similar procedure, all three hypotheses (see table 7 below) were developed and tested using the standard normal distribution at a critical value of 1.96. The results of the test carried out are detailed in table 8 Table 7: Research Hypothesis on the Difference in Use of Ancient Cooking Pots

$S_{I}$	$H_0$	Ancient cooking pots have not reduced in purpose
	H <sub>1</sub>	Ancient cooking pots have reduced in purpose
$S_2$	$H_0$	Ancient cooking pots have not reduced in current usage
	$H_1$	Ancient cooking pots have reduced in current usage
$S_3$	$H_0$	Ancient cooking pots have not reduced in symbolism
	$H_1$	Ancient cooking pots have reduced in symbolism

Presented on table 8 is the test result on the difference in use of the ancient cooking pots. Details of the test results recorded shows that for all three hypotheses, the test statistics were different and not the same as the critical value. At a critical value of 1.96, the test value (z) recorded for each of the three hypotheses were  $S_1$  (47.28),  $S_2$  (61.52), and  $S_3$  (55.24). Based on the results, the verdict passed was that all three hypotheses were accepted. The results suggests that ancient cooking pots have reduced in both purpose and symbolism and subsequently reduced in current usage. Apart from its use for medicinal preparations, as indicted by Insoll (2011), which are even limited largely to the rural areas, modern cooking utensils have significantly limited the use of the cooking pot as part of the culinary practices of most cultures in Ghana.

Statements (S <sub>i</sub> )	$P_{I}$	$P_2$	Standard Normal Distribution (z)	Critical Value	Decision
S <sub>1</sub>	0.923	0.077	47.28	1.96	Accept
S <sub>2</sub>	0.950	0.05	61.52	1.96	Accept
S <sub>3</sub>	0.941	0.059	55.24	1.96	Accept

Table 8: Test Results on Research Hypothesis on the Difference in Use of Ancient Cooking Pots

# 4.6 Relevance and Patronage of Ancient Cooking Pots

The final set of hypotheses tested sough to establish the relevance and patronage of ancient cooking pots. Similar to the previous technique, all three hypotheses (see table 9 below) were developed and tested using the standard normal distribution at a critical value of 1.96. The results of the test carried out are detailed in table 10 Table 9: Research Hypothesis on the Relevance and Patronage of Ancient Cooking Pots

Table 9	Table 9. Research Hypothesis on the Relevance and Fattonage of Ancient Cooking Fols					
S	1	$H_0$	Ancient cooking pots have not reduced in relevance			
		H <sub>1</sub>	Ancient cooking pots have reduced in relevance			
S	2	$H_0$	Ancient cooking pots have not reduced in commercial viability			
		$H_1$	Ancient cooking pots have reduced in commercial viability			
S	3	H <sub>0</sub>	Ancient cooking pots have not reduced in demand			
		$H_1$	Ancient cooking pots have reduced in demand			

Presented on table 10 is the test result on the relevance and patronage of ancient cooking pots. Details of the test results recorded shows that for all three hypotheses, the test statistics were not the same as the critical value. At a critical value of 1.96, the test value (z) recorded for each of the three hypotheses were  $S_1$  (61.52),  $S_2$  (61.52), and  $S_3$  (55.24). Based on the results, all three hypotheses were accepted. The results suggests that ancient cooking pots have reduced in relevance and commercial viability and ultimately in demand. M üller et al. (2012) attributed its weak aesthetic appeal as a main factor driving its dwindling relevance, a tacit indication that its aesthetics require marked improvements.

Statements (S <sub>i</sub> )	$P_{I}$	$P_2$	Standard Normal Distribution $(z)$	Critical Value	Decision
S <sub>1</sub>	0.950	0.05	61.52	1.96	Accept
S <sub>2</sub>	0.950	0.05	61.52	1.96	Accept
<b>S</b> <sub>3</sub>	0.941	0.059	55.24	1.96	Accept

## Table 10: Test Results on Research Hypothesis on the Relevance and Patronage of Ancient Cooking Pots

## 5. Summary of Findings, Conclusion and Recommendation

The art of pottery is embedded in the traditions and culture of the people, as well as their environment. This study revisits the ancient cooking pot, bringing into perspective its historical developments, properties and attributes, and the place it occupies in modern pottery. Key findings were made and discussed. The study established that a significant number of potters are still engaged in the production of the traditional cooking pot, and that a good majority have it as part of their class of products. The study also established that the ancient cooking pots had better fracture strength with higher ability to survive impact and generally more durable. Further, the study finds that ancient cooking pots were superior in technology, had better thermal conductivity and demonstrated higher skill level. However, the results also suggests that ancient cooking pots have reduced in both purpose and symbolism and subsequently reduced in current usage. Aside its use for medicinal preparations, which are even limited largely to the rural areas, modern cooking utensils have significantly limited the use of the cooking pot as part of the culinary practices of most cultures in Ghana. In effect, the traditional cooking pot is an important part of Ghanaian culture that is gradually losing its relevance with the advent of modern alternatives. However, a country always stands to gain from creating the environment to sustain its critical historically rich culture as part of its identify. It is the recommendation of this study therefore that the pottery industry as a whole is developed through a systematic integration of the various class of pottery product into societal demands and deliberately positioned to attract the needed patronage across the various societal engagements and needs. This can however be achieved when the right quality standards have been achieved. This requires the involvement of all stakeholders, both major and minor.

#### References

- Asante, E., Adjei, K. & Opoku-Asare, N. A. (2013). The theoretical and socio-cultural dimensions of Kpando women's pottery.
- Asante, E. A., Opoku-Asare, N. A. & Wemegah, R. (2015). Indigenous pottery at Sirigu: Dialogue on materials, methods and sociocultural significance. *Craft Research*, 6(1), 31-56.
- Boachie-Ansah, J. (2013). A preliminary report on an excavation at Ahwene Koko in the Wenchi traditional area of Ghana.
- Craig, O. E., Saul, H., Lucquin, A., Nishida, Y., Tach é, K., Clarke, L. & Gibbs, K. (2013). Earliest evidence for the use of pottery. *Nature*, 496(7445), 351-354.
- Dombrowski, J. C. (1976). Mumute and Bonoase-two sites of the Kintampo industry. Sankofa, 2, 64-71.
- Garlake, P. S. (1983). Life at Great Zimbabwe (Vol. 1). Mambo Press.
- Gosselain, O. P. (2000). Materializing identities: an African perspective. *Journal of archaeological Method and Theory*, 7(3), 187-217.
- Hein, A., Müller, N. S., & Kilikoglou, V. (2015). Heating efficiency of archaeological cooking vessels: Computer models and simulations of heat transfer. *Ceramics, Cuisine and Culture: The Archaeology and Science of Kitchen Pottery in the Ancient Mediterranean World, Oxbow Books, Oxford*, 49-54.
- Huysecom, E., Rasse, M., Lespez, L., Neumann, K., Fahmy, A., Ballouche, A., ... & Soriano, S. (2009). The emergence of pottery in Africa during the tenth millennium cal BC: new evidence from Ounjougou (Mali). *Antiquity*, 83(322), 905-917.
- Insoll, T., Kankpeyeng, B. W., & Nkumbaan, S. N. (2012). Fragmentary ancestors? Medicine, bodies, and personhood in a Koma Mound, northern Ghana. In *Archaeology of spiritualities* (pp. 25-45). Springer, New York, NY.
- Jesse, F. (2010). Early pottery in northern Africa-an overview. Journal of African Archaeology, 8(2), 219-238.
- Jórdeczka, M., H. Królik, M. Masojć, and R. Schild. 2011. "Early Holocene Pottery in the Western Desert of Egypt: New Data from Nabta Playa." Antiquity 85 (327): 99–115. https://doi.org/10.1017/s0003598x00067466.
- Lambrou-Phillipson, C. (1993). The limitations of the pottery model in the identification of trading colonies. *Zerner et al*, 365-7.
- Mark, J. (2020). "Zhou Dynasty: Definition." Ancient History Encyclopedia, July 1, 2020. Accessed August 11,

2020. https://www.ancient.eu/Zhou Dynasty/.

- Nelson, K., Gatto, M. C., Jesse, F. & M. N. Zeděno. 2002. Holocene Settlement of the Egyptian Sahara, Volume 2: The Pottery of Nabta Playa. New York: Kluwer Academic/Plenum.
- Nodarou, E., Frederick, C. & Hein, A. (2008). Another (mud) brick in the wall: scientific analysis of Bronze Age earthen construction materials from East Crete. *Journal of Archaeological Science*, *35*(11), 2997-3015.
- Nygaard, S. E. & Talbot, M. R. (1984). "Stone Age Archaeology and Environment on the Southern Accra Plains, Ghana." Norwegian Archaeological Review 17 (1): 19–38. https://doi.org/10.1080/00293652.1984.9965396.

Posnansky, M. 2015. "Begho: Life and Times." Journal of West African History 1 (2): 95–118.

- Spataro, M., & Villing, A. (Eds.). (2015). Ceramics, Cuisine and Culture: The archaeology and science of kitchen pottery in the ancient Mediterranean world. Oxbow Books.
- Tite, M., & Kilikoglou, V. (2002). Do we understand cooking pots and is there an ideal cooking pot?. BAR INTERNATIONAL SERIES, 1011, 1-8.
- Vionis, A. K., Poblome, J., De Cupere, B., & Waelkens, M. (2010). A Middle-Late Byzantine pottery assemblage from Sagalassos: typo-chronology and sociocultural interpretation. *Hesperia*, 423-464.
- Walden, F. C., Crawford, G. L., & Dalzell Jr, W. J. (2000). U.S. Patent No. 6,089,825. Washington, DC: U.S. Patent and Trademark Office.
- Wallaert-P âre, H. (2001). Learning how to make the right pots: apprenticeship strategies and material culture, a case study in handmade pottery from Cameroon. *Journal of Anthropological Research*, *57*(4), 471-493.