

A Modification of Indigenous Nigerian Technology: The Production of *Akwa Ocha*

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Abstract

The significance of Akwa-ocha to the socio-economic lives of Anioma people in Delta State is overwhelming. Akwa-ocha industry also contributes immensely toward the sustainable development of Nigeria. Unfortunately modern scientific and technological innovations remain a constant threat to this age-long traditional industry that could go into extinction if left in its original mode of operation. In view of this problem, the researcher modified the woven structure, size and aesthetics of this fabric on a hand loom. The success of this research has solved some key problems in the structure of Igbo traditional handcrafted fabrics by exploring the various advanced woven structures and adapting it in the traditional cloth, it became possible to effect some modification in the system. This research has contributed immensely in making Akwa Ocha contemporarily useful. It could now be used in our contemporary fashion industry for the production of hats, dresses, and souvenirs. This study hopes to encourage more researchers that will help in rescuing our traditional technologies from being relegated to museum objects and artifacts.

Key words: Akwa Ocha, Adaptation, Modification, Indigenous, Technology.

Introduction

Akwa-ocha is a plain woven fabric produced in narrow bands with traditional loom. It is the view of the writer that the production of *Akwa-ocha*, an Igbo traditional cloth, be improved upon. In this regard, a modification experiment was carried out on *akwa-ocha* in a standard broad loom. The experiment was aimed at improving the woven structure, the width and length per warp. The woven structure selected for this purpose are twill weave, rose-path 11 weave, cord velveret weave, wheat weave, honey comb and herring-borne weave. Also motif designs which have cultural relevance were also used to embellish the work.

Traditional weaving technology has existed in most Nigerian cultural areas. Consequently, weaving as a cultural heritage is carried out in such areas. Cloth, which is the end products of most of these traditional weaving has been identified in their varying geographical locations as well as their differing cultures. Ntagu (1997:23) observes that in Nigeria, the following ethnic groups are however recognized by scholars and researchers in textiles for engaging themselves in one form of weaving or the other: The Igbo, Yoruba, Hausa, Fulani and Kanuri areas. In Igboland it includes: Akwete, Anaocha, Abakaliki, Nsukka, and other minor areas.

Lamb and Holmes (1980), Afigbo and Okeke (1985), Aremu (1982:3), Murray (1938:118), Sieber (1972), Kent (1972:67), Eicher (1976:32), Okeke (1982), Diogu (1989), Ntagu (1997), Nwosu (2005) to mention but a few, are among those who have written on various aspects of traditional weaving in Africa, Nigeria and Igbo society. These authors in their varied works presented different textiles of cultural phenomenon as valid entities and acknowledged past textile skills and potential contribution of weavers to society building.

The study of varied weaving cultures reveal the amazing varieties of weaving technique existing, thus giving us the advantage of examining the technology in use and the process of cloth production. Eicher (1976:33) opines that the excellence of one type of weaving over another depends on locality and the tradition of the people.

The purpose of weaving in a traditional set-up is clear. Functionalism according to Adie in Ntagu (1997:29) is the main guiding principle In Aniocha, Afigbo noted that the traditional weave was much more delicate and polished or to use the words of Rev. J. C. Taylor, "generally plain or fanciful white" (Afigbo and Okeke, 1985:33). The only known traditional cloth in Ana-ocha is this *Akwa-ocha*. It is extensively used for all formal occasions and ceremonies. Their esteem and regard for this cloth seems to have grown with time. This is because it is difficult to see anyone in Aniocha using white cloth as work cloth or for everyday casual wear. Although, the use of Western and other foreign cloths and styles of dressing have become popular and acceptable to the Igbo, the traditional *Akwa-ocha* has remained prominent in the cultural life of the Western Igbo and their immediate neighbours. For instance, in the context of this belief, the Aniocha people according to Okeke (1980:111) use their *Akwa-ocha* for most of their ceremonies believing that it inspires certain mystic essence in ceremonies and rituals. Onochie (2003:18) says "It is the traditional belief among the *Enuani* that both the dead and the living use *Akwa-ocha*". In support of this statement, Perani and Wolf in Ntagu (1997:34) say that Africans use cloth to dress themselves and things important to them. Also Picton and Mack (1989:24) note that "textiles are not only used to cloth the living, but also the dead for the manifestation of the world beyond"

Today, *Akwa-ocha* is produced both in its original solid white form and in some cases with colored patterns. However, with or without color, they are all regarded as *Akwa-ocha*. Okeke, (1980:113) observes that the top quality grades of this native dress are generally expensive and are branded *Ogbenye apani* (beyond the reach of the poor). In general, handcrafted cloths are very expensive. Occasionally one may find Aniocha cloth with complicated and sometimes gaudy weft patterns covering most of the solid white warp background.

Cloth weaving is the exclusive occupation of women in Aniocha. The cloth is produced on vertical handlooms that consist of a simple rectangular framework of wood and raffia palm midrib. The cotton yarns used for weaving are locally produced by women but recently, machine produced yarns are mostly used. According to Onochie (2003:19), *Akwa-ocha* weavers believe in the coexistence of nature, which is why *Akwa-ocha* though predominantly white, has other colors on them. Colors found in *Akwa-ocha* include white, red, blue, pink, purple and green, among others. White connotes holiness and purity to the people of Aniocha. Colors on *Akwa-ocha* serve two functions. First, it signifies coexistence of nature. The latter implies that the holiness and purity, which white connotes, cannot exist in isolation but complimentary with other colors.

Aniocha people use simple and unique motifs to design their fabric. These design motifs are made of simple geometrical shapes representative of the weaver's perception of all aspects of life and nature as well as ideas and objects that are held to be important and meaningful in Aniocha. Sometimes, inscriptions are used to convey messages, either through writing or representational imagery. Ceremonies involving historical events are also sources of design motif on *Akwa-ocha*. Infomant Nwadikei (2011) states that these design motifs are made towards high abstraction; that is to say, they are not naturalistic but stylized and adapted to form suitable artistic design for textile. Onochie (2003:20) notes that most of these design motifs on *Akwa-ocha* can be deciphered and their significance appreciated within the context of tradition and cultural values. The communities' beliefs, idioms, myths, proverbs, folklores, tradition and philosophy are put into consideration in the symbolical meaning of design motifs on *Akwa-ocha*. Other design motifs are mainly for aesthetic values. Some examples of the motifs are *Akangwose*, *Step*, *Ijegwo*, *Mkpuluobi*, *Ejekombeloya*.

Akwa-ocha covers all the textile requirement of Aniocha people. According to Nwachukwu (2011) it is worn on formal occasions like festivals, funeral ceremonies, title-taking and for religious

worship. In this respect the Christian doctrine of using white dresses for weddings and for other religious ceremonies is significant. In short, the importance of *Akwa-ocha* in the cultural life of Aniocha Igbo, exemplified by the versatile use made of the cloth, cannot be overemphasized. The fact that this popularly used cloth is produced by the people will add to its continued presence, at least in their cultural events.

In this study, the writer has attempted to establish that Igbo textiles have undergone series of modifications both in the area of material and technique but little have been done on *Akwa-ocha*. The use of machine spun yarn has taken over the stress of hand spinning and also replaced the rough and heavy traditional fabrics with lighter, smoother and more beautifully decorated types. Nothing has been done so far about modifying the woven structure of this cloth to make it more acceptable for other uses.

Materials and Method of Production

Design process

First of all, the researcher made the drafts of the new concept that are acceptable for the study. The modification is specifically on the woven structure, width and length. Basically, *Akwa-ocha* woven structure is plain. It is produced on a traditional loom in short stripes of about 0.5meters wide and about 2meters per warp.

Modification Process

The modification process was carried out on a standard broad loom, referred to as the treadle loom (plate 1). This loom has more than two harnesses that makes it possible to weave different structures. The width of the cloth is improved with the reed system. The warping system offers as many lengths as possible. For example, about sixty meters of fabric can be woven from a warp loom. This loom is equipped with treadles connected to the harnesses. The weaver has foot control to change the shed leaving the hand free to throw the shuttle and beat in the weft. The harnesses in this counter balance loom operate in tandem, as one harness is lowered, the connecting harnesses are raised. Thus to create any shed, all warp yarns must depart from the horizontal, some above it and some below.



Plate 1: The Treadle loom
2012

Result

This design experimentation is therefore a concerted effort to preserve the weaving tradition of the Aniocha people of Delta State and the Igbo people at large. The modified *Akwa-ocha* becomes a highly visible projector of the rich cultural heritage of the Igbo people. This is why varied and intricate woven structures and motifs were put in use. The relevance of this structures and motifs are to project the full expression of varied cultural aesthetics, values and world view of the people. In this work the white colour which is the dominant color symbolizes purity and the white sandy beach of the riverine areas. The green stands for vegetation and fruitfulness of the land. The blue color stands for strength and power. The purple stands for royalty while the metallic yarn represents the reflections from the water. The experimental exercise produced a highly creative and professional standard of work evidenced in the modified samples presented under the following themes;

1. Our Heritage

This is 100% cotton reversed twill and straight twill weave fabric. The stripes on the white dominated warp are of green, blue and purple. The weft is woven in stripes of white and green in the ratio of 2:1. Metallic yarn (Lurex) of green and silver was also used. In this weave, each filling yarn floats across two weft yarn to form a progression of interlacing by one to the right or to the left to form a distinct diagonal line or wale. These twill fabrics have no right side and wrong side. They have no up and down. Check this fact by turning the fabric upside-down and then examine the direction of the twill wale. Twill surface has interesting texture and design. Fewer interlacing permit the yarns to move more freely and give the fabric more softness, pliability, and wrinkle recovery than a comparable plain weave fabric. Plate 2 symbolizes the life and vegetation that flourish in the riverine areas. The metallic yarn represents the reflections from the water.



Plate 2: Reversed Twill weave fabric produced by the author Medium: 100% cotton warp and weft. 2012.



Plate 3: Straight Twill Weave Fabric by the Author.
Medium: 100%cotton warp and weft. 2012

2. Ifurundu Design

This modified sample is a 100% cotton white dominated straight twill weave fabric. The floral motif used to embellish this work was applied using screen printing technique. The natural green color of leaves is evident in this work and the stone beads represent the fruitful produce of the riverine areas.



Plate 4: *Ifurundu* design produced by the Author
Medium: 100% cotton warp and weft, 2012.

3. Ifuruoma Design

Ifuruoma modified sample is 100% cotton white dominated experimental weave fabric. In this weave, the weave particulars of twill are used except the pedaling. The floral motif used here is a budded flower. The fruits are represented with golden stone beads. Hand embroidery technique is used to apply the design motif.



Plate 5: *Ifuruoma* Design produced by the Author.
Medium: 100% cotton warp and weft. 2012

4. Hand-Rest/Napkins

This sample is a polyester warp and cotton weft adaptation of honey comb design weave. Because this weave is threaded on a pointed draw and the pedaling on reverse order; the design overlapped at two opposite ends. Each side of this construction is beautifully designed and therefore there is no positive side and negative side. There are few interlacing; thus the yarns can be packed close together to produce a very high count fabric.



Plate 6: suitable for use as towel produced by the Author, Medium: 100% cotton warp and weft.2012.

5. Akangweose/ Ije-agwo

This sample is a construction of the combination of plain and honey comb design in a white dominated background. The theme *Akangweose* is the local name for the pestle which is a common and frequently used kitchen utensil for pounding. This implement is not only useful to women for the preparation of food but also a handy weapon at home. *Ije-agwo* is a zig-zag motif used symbolically to represent the graceful swinging of a dancing woman.



Plate 7: Akangweose/Ijeagwo design by the Author, Medium: 100% cotton warp and weft with polyester embroidery. 2012.

6. Akwa Ocha for Corporate wears.

This modified piece is a construction of reverse twill weave and rose-path 11 weave. The twill is constructed with a cream colored warp and pure white colored weft, while the rose-path 11 is of complete pure white warp and weft yarn. As already stated in sample 8 above, this weaves have beautiful texture and design. The float of yarn gives it a very beautiful and lustrous effect. This corporate wear can be used for any official event.



Plate 8: Corporate Wear by the Author. Medium: 1:1cotton warp & polyester weft, 2013.

7. Obidiya design

This modified piece is a construction of wheat and plain weave design on a white dominated background. The theme Obidiya meaning the heart of the husband is derived from the heart shaped motif called *mkpulu-obi*. Aniocha people believe that “from the abundance of the heart the mouth speaks”. The representation of the heart on *Akwa-Ocha* cloth depicts purity of the heart. To the student also it depicts love. It is a suitable design for women’s two-piece wrapper.



Plate 9: *Obidiya Design* by the Author Medium: 100% cotton warp and weft with polyester weft. 2012

8. The Young Shall Grow

This sample is a construction of wheat and plain weave design on a white dominated background. In this weave, each filling yarn floats three warp yarns and interlaces with the next two and then floats another one warp yarn and interlaces with the next two warp yarn in progression either to the right or to the left. This structure has no positive or negative side and therefore any side of the fabric can be used. It has a very beautiful and interesting texture and design. Interlacing per square inch is less and this offers the fabric more softness pliability, wrinkle recovery and luster. The design motif used for embellishment is called *step*. This motif consists of triangles arranged in succession from the bottom to the top. Its symbolical meaning lies within the general saying among Aniocha people: “*nwayo nwayo ka okenye ji elu ebe ojeko*” meaning “step by step an elder gets to his destination”. To the researcher, it means that growth is a gradual process, hence the theme “The young shall grow” This fabric is suitable for men’s wrapper, dress, title taking, chieftaincy dresses.



Plate 10: *The Young Shall Grow* by the Author Medium: 50%: 50% polyester warp and cotton weft. 2012.

Summary

The Aniocha people weave a great number of different cloths to date but for a singular intention: as the *Akwa-ocha* of Aniocha traditional costume. Since the present state of their traditional loom and the use of imported white cloth do not disrupt the traditional end use of the cloth, the weavers are not aware of the need to improve their products. There is a hope that if *Akwa-ocha* is modified by weaving it on the standard loom, its end use will increase and the cloth will also serve other contemporary quest and fashion.

The researcher has been able to identify some key problems in the structure of Igbo traditional handcrafted fabrics. The researcher has demonstrated her ability to comprehend the necessary elements in the standard system of fabric construction through some of the works she produced in her studio experiments. By exploring the various advanced woven structures and adapting it in the traditional cloth, it has become possible to effect some modifications in the system.

In as much as it is important for *Akwa-ocha* to maintain its cultural identity and preservation, it is also needful to weave it on the standard broad loom which has solved most of the problems of traditional loom.

Finally, this modified *Akwa-ocha* can also be mass produced in the mechanized industry. Textile designers, entrepreneurs and manufacturers are therefore encouraged to wake up to the challenges of research experimentation and exploration to bring *Akwa-ocha* to global level competitiveness.

Conclusion

The various projects executed by the researcher have shown that the modified *Akwa Ocha* is quite appealing for several reasons. It therefore deserves special attention at the National level. More so, as the Igbo traditional weaving culture is declining, the need to modify the cloth has increased and therefore this experiment is justified.

The quality of this modified cloth is quite undisputable. All that is lacking in the present dispensation is large scale production of the same material. Availability of modern technical skills should be employed to the people's advantage. Things have inevitably changed and our traditional textiles should not continue to be good only as museum pieces. There is much that could be done to preserve Igbo woven textile thereby keeping the weaving culture alive.

Recommendations

With the result of the modification exercise carried out in this research work, the following recommendations are made as a guide for the development of textile production in Aniocha in particular and in Nigeria in general:

- i. First, cloth weavers should use the treadle loom to weave so as to overcome the problems inherent in the traditional loom. This will also offer them the opportunity to weave more beautiful and advanced structures at ease with desired length and width per warp.
- ii. Next, cloth weavers should adopt all available modern technology in various areas to satisfy the local needs. Computers should be used for easy drafting and documentation of any weave structure. The use of flying wheel for winding bobbins can be adopted to replace the conventional method of producing balls of yarns by hand.
- iii. Third, weavers should explore further possibilities on what already exist in the world today to develop people's talents and resources in order to achieve what they want. Also to find out how traditional technology could also contribute to the world science and technology.
- iv. Fourth, Federal Government should control the importation of foreign textiles which by their nature could undermine the sale of indigenous textiles.

- v. Fifth, the creation of co-operative societies to train more youths in the knowledge of the modern method of fabric construction should be encouraged. It would also allow them to attract loan and credit facilities as well as permanent pattern of work.
- vi. Sixth, this prestigious cultural heritage should be introduced into our formal educational system. This will help to guard this artistic heritage since it was observed that the modern system of education has kept children away from their homes for most of the time and this has affected the traditional way of transferring skills from parents to children.
- vii. Finally, Textile is one of the fields of study that have been influenced by scientific and technological innovations. It was observed that these developments have threatened the traditional cloths and their method of production. In order to sustain cloth weaving in Igboland, the people should create and enforce more social ceremonies and occasions during which the traditional cloth should be used. The traditional design can be adopted for various end uses such as foot mat, hand- rest, hats and bags.

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