THE STUDY OF TRADITIONAL AND CONTEMPORARY PRODUCTION OF AKWETE CLOTH AND ITS ADAPTATION AS COSTUME FOR COLD WEATHER SITUATION IN NIGERIA

BY

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DECLARATION

I hereby declare that this thesis is the original copy and written by me.

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CERTIFICATION

This thesis entitled "The Study of Traditional and Contemporary Production of Akwete Cloth and Its Adaptation as Costume for cold weather situation in Nigeria" written by Maria Ojumeze Iheme Kucha meets the requirement governing the award of the M.A. Industrial Design of Ahmadu Bello University and its satisfactory addition to knowledge and literary presentation has been accepted.

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ABSTRACT

In this study, the possible origin of Akwete cloth, the materials employed, and the technique of production have been investigated. The physical, aesthetic and comfort properties of Akwete cloth have been studied with a view to ascertaining its suitability for the design of costumes for cold weather situation in Nigeria.

The trends of current Nigerian fashion have been used as a guide in the selection of dress styles and to make dress patterns in designing cold weather garment.

The study was assisted by the Use of a questionnaire, based on sir hypotheses (Appendix A1 and P. 10)

Afcwete cloth is woven on the vertical loom by the women of Akwete town of Igboland. The yarns used are almost invariably cotton. The Akwete cloth production involves six stages - starching$_f$ drying, spinning, rolling, threading the loom and cloth weaving.

AJcwete fabrics exhibit high resistance to abrasion, which show them to be durable. The yarns employed in their weaving show much higher weight per unit length than those used for ordinary types of cloth, e,g, shirting.

The air permeability of Akwete cloth is extremely low, much lower than those of ordinary fabrics such as shirting and drill. Their high resistance to air flow

recommends tire; as a suitable material for the design of cold weather apparel.

The care and maintenance method for Akwete cold weather constructed gament was determined. The best result was observed with the traditional (hand) washing method with cold water and mild (bath) scar.

DEDICATION

This work is dedicated to my dear mother - Mrs. T.N. Iheme and to all the members of my family.

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CHAPTER I

1.1 INTRODUCTION

From many recorded accounts, woven textiles in Igboland were first identified by ethnographers. Eicher /1976/ reported that best fiber textile remnants found at Igbo Ukwu belongs to the Akwete group of cloth and dates back to 19th century. Idiens et al /1980/ who supported the same view proclaimed that the finest woven cloth from women's vertical loom in Nigeria is that produced by Ndoki weavers located on the southern part of Igboland. The cloth is functional in many ways.

Akwete cloth is traditionally used by men and women as wrap around cloth with a matching top. In addition, Akwete cloth has been observed to perform the function of shawl during cold season. The fact that the cloth is loosely wrapped around the shoulder at cold period is significant in the area of need to design a functional cold weather garment from this traditional cloth. It aught to have given indication of the cold garment acceptance and may prove the capability to give protection from Nigerian cold weather. Very few information was found in the area of designing tailored garments from traditional cloths.

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Lamb et al /1980/ mentioned that traditional woven cloths are usually not well made into functional clothes for Nigeria cold weather. Nevertheless, it was reported by Eicher /1976/ that traditional cloths are well accepted when tailored to long skirts and matching blouses and must not be used as wrap around traditional style alone.

This study attempts to design cold weather clothing from traditional Akwete cloth, with consideration to comfort and better health for its user. It is obvious that a poorly protected individual from cold may not maintain good health for long. If less people fall sick during cold season, there might be minimum requirement to spend foreign exchange on medicine. Kohler /1963/ stressed that clothing must be designed with the comfort of the user in mind. He reported that the striking discovery in the 1930s was that of designing clothing arm hole to be more comfortable for the user.

To this regard, the author intends to study the existing recorded account on Akwete cloth and to examine the level of new development on the Nigerian fashion trend. An observation of current documentary journals and magazines may aid choosing of dress styles for the purpose of designing the cold season clothing.

Fashion designers and traditional textile designers should join hands to help each other's existence in the society. A change of weather situation has been noticed in Nigeria. Jos in Plateau State of Nigeria experienced a severe crippling harmattan cold in 1983. According to the Nigerian Standard of January 7th 1983, the Jos Airport control tower recorded seven degrees centigrade as lowest of the bad weather since the 1960s. It is believed by our source that people shivered due to unpreparedness for such cold harmattan. The 1983 cold spells claimed two lives in Jos Plateau State. The source reported that bad weather took 600 American lives and 59 were killed by cold spells in India in 1982.

Most bad weather is experienced during harmattan in Nigeria and winter period for overseas countries. The Northern part of Nigeria (localities about 10^{o} below latitude) for example is periodically dry for about seven calendar months in a year. Agbo /1980/ described this period as dense brown haze of 'harmattan'. Other researchers who investigated into harmattan bad weather were Mckeown /1956/ in Ibadan, Samways /1974/ at Kano and Brinkman in Zaria and they confirmed the period of harmattan to be poor in visibility from dust and usually dry and cold.

It is in view of the observation, that most of the locally produced textiles are not fashioned to take care of cold weather that this study has been considered appropriate. There is therefore an obvious need for fashion designers to utilize traditional Nigerian textiles in designing or developing costumes that are appropriate and suitable for Nigerian climate. Furthermore, modern costumes designed with a touch of traditional influences may have more meaning to Nigerians since most of our people still strongly adhere to their traditions and cultures.

1.2 Statement of Research Problem

African continent, one of the six main land masses of the earth is geographically known to have the warmest climate in the whole world. The hidden strange issue is that Nigerian Nation has often times experienced bad cold weather. One of the extreme cold seasons was recorded for the first time by the Nigerian Standard News Editors in 1983. To support the information, the Nigerian Standard compared the 1983 cold to what was experienced in the 1960s in Jos, Plateau State, Nigeria.

The pinning, wrapping and tying of an Akwete cloth over the shoulder is a problem. According to Kohler /1963/ the wrapping and tying of an unsewn cloth over the shoulder is uncomfortable. Nevertheless, the method is the oldest technique of clothing, which was used by the Romans before the discovery of sewing machine in the 1790. Dutsenwai /1985/ in his support, stressed the usefulness of tailored garment. He, Dutsenwai reported that the early form of clothing used by man is the untailored cloth. Herskovits /1964/ in acknowledgement emphasised that this simple technical clothing still requires defined steps to wrap them as garment.

Having established the possibility of cold weather, it is therefore significant to attempt the solution of the problem. The development of cold

period clothing is relevant, due to the phenomenon of direct demand presented by the use of this particular traditional cloth, which has been observed to protect against Nigerian cold, though with apparent deficiency of wrapping. Akwete cloth pattern design is derived from motifs of varieties of proportion. According to Brockman /1965/ geometric bold or thin design woven cloth is adequate when fashioned to cold weather garment.

Nigeria is now moving towards industrialization and progress in all productive activities. The use of Akwete traditional cloth to develop cold season garment will aid technological advancement towards attainment of self reliance on the subject being discussed. At present, cold weather clothing is still being imported from abroad into Nigeria. Cold weather apparel designed from local materials is likely to eliminate professional care and maintenance while individuals can make use of home care method at affordable cost. A reduction in the import of these garments could reduce the current economic crunch. The problem of this study therefore is the examination of traditional and contemporary Akwete cloth to be used in designing a new fashion for harmattan and general bad cold weather. In other words, the study will use local raw materials to develop a branch of fashion for specific use which is presently lacking in Nigeria.

1.3 Purpose of the Study

The purpose of this study are:

1. To find the possible origin of Akwete weaving tradition in order to document written information on the traditional and contemporary Akwete cloths. The study will investigate recent trends and development as may have occurred to traditional and contemporary Akwete cloths lately.
2. To examine the techniques, types of materials - dyes, yarns and tools utilized in weaving the Akwete cloth. An inquiry into the production of Akwete cloth will suggest the strength and quality of the cloth and may help to determine care and maintenance method for the finished cold weather garment.
3. To cross-examine the suitability of Akwete cloth if used to design cold weather clothing. The suitability of the cloth ought to be tested for efficiency by measuring its weight per unit area, counts of yarns used, air permeability and abrasion resistance.
4. To explore various techniques of designing basic patterns to be used in cutting out the styles on fabric for the purpose of precision of garment shapes and forms. It will avoid free hand technique (cutting fabric without pattern)

throughout the designing of the cold weather clothing.

1.4 Objectives

The objectives of this study are:

1. To study the recorded literature in order to select one group of Akwete - traditional or contemporary Akwete cloth for the purpose of designing cold weather apparel.
2. To study available literature to familiarize with the trends of current Nigerian fashion in order to guide in the selection of dress styles for the purpose of designing cold season clothing.
3. To sketch the apparel styles and make patterns necessary in cutting out specific garment styles on the chosen fabric in order to evenly define dress outlines, shapes and forms.
4. To provide visual information through the provision of photographs of the Akwete cloth as it was originally being used traditionally in society. In addition to this, the construction of the cold weather garment will illustrate a new method, of which Akwete cloth may become utilized in the Nigerian contemporary fashion.

1.5 Hypothesis

The questionnaire was designed to collect data and authenticate the following assumptions:

a) That the information collected from literature will assist in choosing the adequate cloth - traditional or contemporary Akwete in cold weather costume designing.

b) That the contemporary Nigerian dress patterns, drafted from model form will be appropriate for shaping the cold season garment.

c) That the conducted tests for suitability will make the cold weather clothing more efficient for Nigerian-harmattan.

d) That the contemporary method in fashioning Akwete cloth to cold season apparel will be easier and cheaper to maintain than its imported counterpart from overseas.

e) That the newly created cold weather fashion will stimulate more demand for Akwete cloth.

f) That Akwete cold weather garment will relatively reduce the import of cold season clothing to Nigeria.

1.6 Background and Significance of the Study

An investigation into the originality of Akwete cloth has established that the cloth is a product of Igboland in Nigeria and not imported to Nigeria. In the traditional application, Akwete is

used as wrapper and a matching blouse. It has been observed that the cloth performs an additional function of body covering material at cold period.

Having acknowledged the lack of cold season garment it is believed that this already chosen body covering fabric may serve appropriately if fashioned to functional tailored cold weather garment for protection from cold. The tailored cold weather garment may afford the user with more convenience of technical method of usage than the traditional technique of protection from cold weather, which made use of the unsewn Akwete cloth warpped around the shoulder.

The existing shortage and cost of buying imported new or first hand foreign cold weather clothing further encouraged the follow-up on the study. An encouragement from this, is to reduce the frustration faced by those learned citizens who realise the health danger imposed by purchasing and using used second hand sweaters. The most common, cheapest and easiest to reach, though with its health hazards, is the used cold weather garments and sweaters, which have penetrated even to the interior villages where the worst condition types are found.

The attempt to conserve scarce foreign exchange stimulated interest to explore various ways of producing cold weather garment.

The observation of the proposed good health for all, by the year "Two Thousand" was first mentioned by the World Health Organization (W.H.O.) and was viewed logical by this study especially, because Nigeria has shown interest in the programme. It is therefore pertinent for all fields of discipline to contribute their quota to help this nation to assist in making this programme a success in the years to come. In view of this development, cold weather garment may assist this programme to achieve a success in the years to come. In view of this development, cold weather garment may assist to maintain good health.

Macleod /1984/ reported that catching of cold predisposes a person to pneumonia. The lowered body temperature depresses body immunity and thereby allowing the invading organism to multiply and cause pneumonia. According to Wasserman et al /1974/ the control of body temperature through clothing is very important for human beings. Inadequate control of body temperature on premature babies is associated with hypothermia and hyperthemia. This results in inadequate function of sweating mechanisms, inability to shiver, diminished body insulation due to paucity of subcutaneous fats,

large surface area in proportion to the body weight and low heat production. Cold weather if not regulated will therefore lead to increased mortality in newborns especially in pre-mature babies. Enyinnaya /1975/ in support of health problem from cold weather stated that poor protection from cold weather predisposes to upper respiratory track infestation such as common cold, catarrh, cough and viral pneumonia. The spread of infiuenza, parainfluenza virus, respiratory syncytial virus and herpes virus is high during cold season.

The study may assist the government effort to increase job opportunity in the interior, if more demand for Akwete cloth is stimulated. It may help to retain more young women to learn and weave Akwete cloth in the rural areas rather than moving to urban cities where they may fall victims of circumstance of job search. To support this view, Lamb et al /1980/ reported that Akwete is solely woven by women.

1.7 Justification for the Study

A review of the related literature reveals that there have been very few studies conducted on the production of tailored garment from traditional cloth in Nigeria. In addition, no adequate

literature was found on Nigeria cold weather garments. This study is significant in many directions. The significance of this study must be made more comprehensive than what it now contains.

For instance it may:

1. Revitalize culture
2. Make a record of tradition which are fast disappearing.
3. Ensure preservation of Akwete local craft
4. Lessen economic problem by conserving foreign exchange
5. Increase the fashion design standard of students by making them aware of the need to emulate by researching into areas not yet fully explored due to the challenge that may come from this study.

It will be of interest to Nigerian fashion designers by focusing their attention towards the need and possibility of utilizing local materials in designing costumes. It will be of tremendous concern to fashion design institutions such as Advanced Teachers Colleges, Trade Schools, and other institutions of higher learning. The mass-produced ready-to-wear garments may become export commodities to other nations for use in semi

cold seasons, or at autumn season abroad. These harmattan garments could reach citizens in the interior villages. The cold weather garment may use home care and maintenance method instead of making use of professional and dry cleaning method only, which are more expensive.

1.8 Basic Assumption

The study will be based on the following assumptions:

1. It is assumed that information supplied on Akwete weave will be true representation and useful guide in selection of either the contemporary or traditional Akwete type of cloth.
2. That all raw materials for this study will be local materials.
3. That there are abundant facilities to test all paramount areas necessary to confirm the suitability of Akwete cloth in designing the cold weather garment.

1.9 Definition of Special Terms

Tradition: Informative beliefs and customs by a group. This is an inherited pattern passed down from one generation to another.

Contemporary: This is a happening in the present period.

Production: As implied in this study, production is the process of creation of cold weather commodity (garment).

Adaptation: This refers to the modification of the original product (Akwete cloth) to make it fit to conditional environment under study.

Costume: A prevailing dress or suit in a period.

Yarn Count: This is the mass per unit length of yarn. Yarn count can be stated in direct or indirect systems. The indirect method stands for the count of various natural fibres and filament hanks of 840 yards, an equivalent of one pound. The direct method represents the count of synthetic filaments such as tex count, an equivalent weight in grams of 100 metres of the yarns.

Air Permeability: This influences the suitability of fabric; a fabric that is permeable to air may be permeable to cold and water. Air permeability of a fabric is defined as the volume of air measured in cubic centimetres passed per second through an area of

one centimetre head of water.

Kazaure /1986/ showed linear increment in air permeability with increased fibre twist, fabric structure and the yarn parameters.

Abrasion Resistance: This is the ability of a fabric to resist wear and reflect on its durability during use. Kazaure /1986/ showed that friction, surface cutting and fabric plucking are the components of fabric abrasion. The wearing of the fabric under test is affected by the nature of abradant over the test area. Abradant needs to be changed after each specimen.

Fashion: This is an accepted style during a particular time. This includes social standing or custom, often connected to dress or conduct of a social group.

Pattern: This is a proposed form or model prepared for duplication, often connected to design or created model for use in cutting out intended dress styles.

Otiti: Beater-in or sword.

Paa-paa: Supplementary heddle or pattern rod.

Nkwechite: Main shed-stick.

Ekike: Spreader or extra lease rod.

Ugwu - Ngburu: A rod used as foundation pick.

Agba: A typical shuttle

Ahia: Primary heddle rod

Nkpo: Used in raising pattern warp to lay in extra weft.

1.10 Delimitation of the Study

It was established by the literature review findings that Akwete cloth is of two main categories - the traditional and contemporary Akwete cloths. Afigbo et al /1982/ who lends support stated that Akwete weave is produced by three major groups in Igboland. He claimed that the most sophisticated Akwete is that woven in Ndoki region. The procurement, examination and analysis of cloth for this study therefore will be confined to Akwete cloth woven in Ndoki area of Igboland.

The fashion designing on the other hand will be restricted to the roles guiding a new fashion development. Writers in fashion design discipline /Jeffe, e t al 1973; Kopp et al 1981 and Ledbetter eet al 1981/ in support of the above confirmed that

fabric must be first chosen before deciding on specific fashion to be created. Brookman /1965/ pointed out that a model form which are similar to human form must be used when designing a new fashion.

1.11 Procedures for Collection and Treatment of Data

1.11.1 Research Design and Methodology

Survey research design facilitates data collection on percentage of respondents, who hold or may not hold the same view while it can be employed to test relationship between different variables. It has priority over other research methods, for the purpose of this study.

Osuala /1982/ expressed the opinion that survey method is similar to historical method if traced back to ancient Egyptian period and twentieth century. Borg and Gall /1979/ who lend the same view cited that Lazarsfield, Hayman contributed to diversification, which separated the historical technique from survey method and therefore affording the latter a measure to test different variables based on hypothesis. Historical method has the limitation which cannot be tested by a hypothesis. He indicated that a statement of research problem with some historical influence aimed at testing variables shall apply survey method to find solution to that statement of research problem.

This research is based on a survey method to test the attitude of selected population in reaction to cold weather situation in Nigeria if fashioned from Akwete cloth. Nkavoa /1983/ observed that the Wear's scale test is adequately used to measure attitude of respondent. In his adoption to Wear's scale survey, he reported that to obtain purposeful responses, the researcher may modify some original questionnaire statements to accommodate differences in response by the subjects. To this regard, he affirmed that such alterations may not alter original meanings.

1.11.2 Data Collection Tools

Survey research design is characterised by cross-sectional samples while it reports the results of public opinion pool or marginal tabulation from defined population. Sampling selects a given number of people from a predetermined population to represent that target population or universe. According to Borg and Gall /1983/ a population is obtained when a sample is grouped into one whole mass and drawn from a large group scattered in a geographical area. Neverthereless, a target population may consist of small group centered in a single locality.

Questionnaire and intereview measurement instruments will usually guide survey research design. As reported by Borg and Gall /1979/

data collection is also effective when compiled by examination of exisiting record on subjects. Adetoro /1984/ stressed that the entire subject must be administered with the same tyre of measurement scale. It is assumed that one half of the respondents should be measured with the same quality questionnaire or interview as the other half of the sample. Information collected by survey instruments is quantifiable.

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CHAPTER 2

REVIEW OF LITERATURE

2.1 Introduction

This Chapter reviews the aspects of Akwete cloth production and the cloth adaptation to Nigerian contemporary fashion, with focus to Nigerian cold weather clothing construction.

The two categories of Akwete - traditional and contemporary types will be reviewed in the selection of appropriate cloth in designing the cold season costume.

The Chapter is based on two sources. The first part is the Akwete cloth production sequence, material and technique. The second part is based on Akwete new-fashion creation methods and required instruments in constructing the Akwete garment.

2.2 Akwete weaving

The origin of traditional Akwete weaving is unclear; however, several authors suggest that external influence may have contributed to this indigenous Igbo cloth. Fagg /1974/ and Picton et al /1979/ argued that Akwete weavers may have derived their inspiration of weaving from oriental designs. Lamb et al /1980/ as another source has the belief that influence from Togo and Ghana may have contributed. Lamb and Plumer /1970/ meditated that influence from some parts of Nigeria especially Ijebu-Ode can be deduced. Contrary to Plumer /1970/ and Lamb et al /1980/ opinion, Talbot

suggested other sources of influence. He viewed that the production of Akwete cloth may have some connection with the "Nwgo" people through the north.

According to Afigbo et al /1982/ the oldest woven cloth of Igboland is traced back to a pregnant woman who was the first to weave from an Nzogbu fibre obtained from a climbing plant, through the immitation of the spider web.

Lamb et al /1980/ emphasised that the Akwete weavers believe that their craft was initiated by Madam Dada Nwakata.

Lamb et al /1980/ reported that another eminent weaver is one Madam Nwarikpe Ekpo and Madam Jorgi Nmereji Nbokwo. She, Lamb, mentioned that more contributors in Akwete weaving included Madam Nnadede and Madam Ekeke who was noticeable in Akwete craft in 1920.

In contrast to Lamb's opinion, Okeke /1982/ emphasised that weaving existed in Akwete region before the period of Madam Dada Nwakata, and that the Ndoki clan wove cloths locally recognised as "Egerebite". Thus it seems more probable that this is an introduction to the evolution of Akwete cloth that Madam Nwakata pioneered into than the introduction of Akwete weaving itself. According to him, "Egerebite" cloth is noted as an Igbo popular cloth and therefore, known as "Akwa Uburu" in Igboland. Adetoro /1984/ agreed with Okeke and suggested that weaving in Akwete may not have existed per se and probably before Madam Nwakata, because the

art of weaving in Nigeria especially in the northern and western parts is more than one thousand years old. He, Adetoro, went further to differentiate weaving activities in Nigeria into geographical locations of North, Mid-Central, East and western Parts.

The weaving of Akwete is practised at all ages, at leisure period and for trade reasons. Lamb et al /1980/ reflected on the view and expressed that every Akwete female can weave. The early initiation of weaving is done on a narrow web for the convenience of the child. This point of view was supported by Fagg /1974/ who proclaimed that by the age of twelve, an Akwete girl is efficient in weaving tradition.

Akwete weaving is done exclusively by the female. According to Plumer /1970/ the Akwete people believe that a man who weaves may offend the land and was confirmed by this study. Weaving of Akwete was noticed to be centred in Akwete town and the whole of Ndoki region. Lamb et al /1980/ observed that a female weaver from Akwete will desist from weaving beyond Akwete region. Plumer /1970/ made the same point and remarked that there existed a notion in Akwete that talent could be lost in the practice of weaving outside Akwete locality. He affirmed that even though women from other localities have been taught how to weave Akwete cloth however, they inclusively refrain from weaving outside Akwete territory.

The Akwete weavers of Ndoki region are highly secretive. Okeke /1982/ acknowledged this point and

emphasised that the origin of the secrecy can be dated back to Madam Dada Nwakata's period, who concealed every information on her created designs till the time of her death. It is even more difficult to obtain technical information from the younger generation. The weavers of Akwete cloths in various territories were more liberal in provision of information. Nevertheless,the strength and quality of communication with this group of weavers depend on the existing interpersonal relationship. For example,Mrs.David objected to the first question. She recommended that operational observation in her work room was accepted by her, but will not entertain any demand for explanation. Mrs. Ogbonna was more generous. She extended beyond providing information and went further to lend her loom parts or parts of her loom which were brought to Ahmadu Bello University for the purpose of this study and for examination.

The attempt to purchase some samples of Akwete pieces failed. The only weaver who agreed to sell one of such samples containing five different mini patterns, on a 30cm by 27cm, sold it at exorbitant price of fifty Naira (₦50.00)

There exists traditional beliefs on Akwete weaving craft. According to Mrs. Eunice Nwankwo of Akwete weaving centre in Ndoki, the weavers must offer drinks to their elders and chiefs once a year to show gratitude

to their ancestors for discovering the weaving craft. She indicated that Akwete cloth is used to spread in the room of the deceased, but these cloths cannot be burried along with the dead. She added that no specific pattern is restricted for marriage and other ceremonies for the convenience of buyers and users.

Since this study is particularly interested in the type of vertical loom typically associated with Akwete weavers, the author intends to henceforth refer to the weaving looms used by Akwete people as the Akwete loom.

2.3 Akwete Loom

It is easy to creat a loom for weaving in Ndoki area. In support of the above, Fagg /1974/ reported that it is compulsory for every household in Akwete to have a weaving loom regardless of the size. Okeke /1982/ is of the same opinion and added that the women's Oche, Usokwu (women's kitchen stool) was the oldest Akwete loom. When the stool was over turned, the legs facing upwards served as loom net-work. This has now been modified.

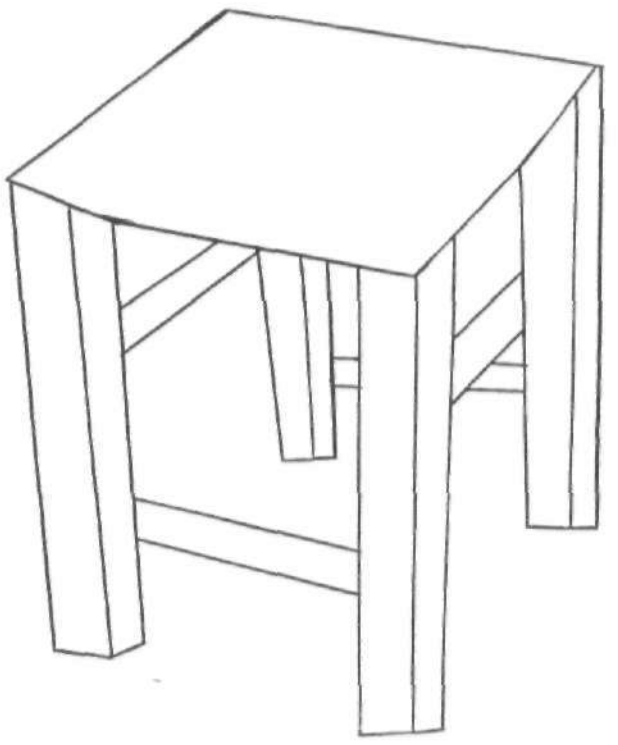
Akwete is woven on the women's loom. Picton et al /1979/ observed that Akwete loom is similar to the vertical single-heddle loom used in other parts of Nigeria and can be compared to the Igbira Okene, Nupe,

Yoruba and the Hausa women's vertical looms. Nevertheless, differences exist between this loom and others compared with it. Okeke /1982/ contrasted the Akwete loom to other women's vertical loom in Nigeria and set the loom apart to be predominantly wider.

He, Okeke asserted that the Akwete loom has its horizontal beam permanently attached by the mortice fastened onto the two vertical upright frames. He noticed that the upper horizontal beam is the sole section with easy mobility through alterations, while its uprights are secured together to upper horizontal beam with extra cross bar. Another significant difference exists in the method of positioning of the Akwete loom. Lamb et al /1980/ noted that the base support of the loom is located about six inches from the wall while the extreme tops are within eighteen inches from the wall.

Akwete loom is manufactured from solid wood. Plumer /1970/ lends the view that a good substitute to the Iroko wood in the construction of Akwete loom is the raffia palm wood. She, Lamb, observed the existence of improvement in the loom device. This development she found was in the area of the loom equipment mounting and dismounting techniques. She

added that the uprights of the rectangular section of the loom has its vertical holes with pegs to sustain the upper horizontal beam at individual regulations. The picture of Akwete loom is illustrated in Figure 2.1 and 2.2.



The above is the oldest Akwete loom.

Fig. 2.1 Oche Usokwu

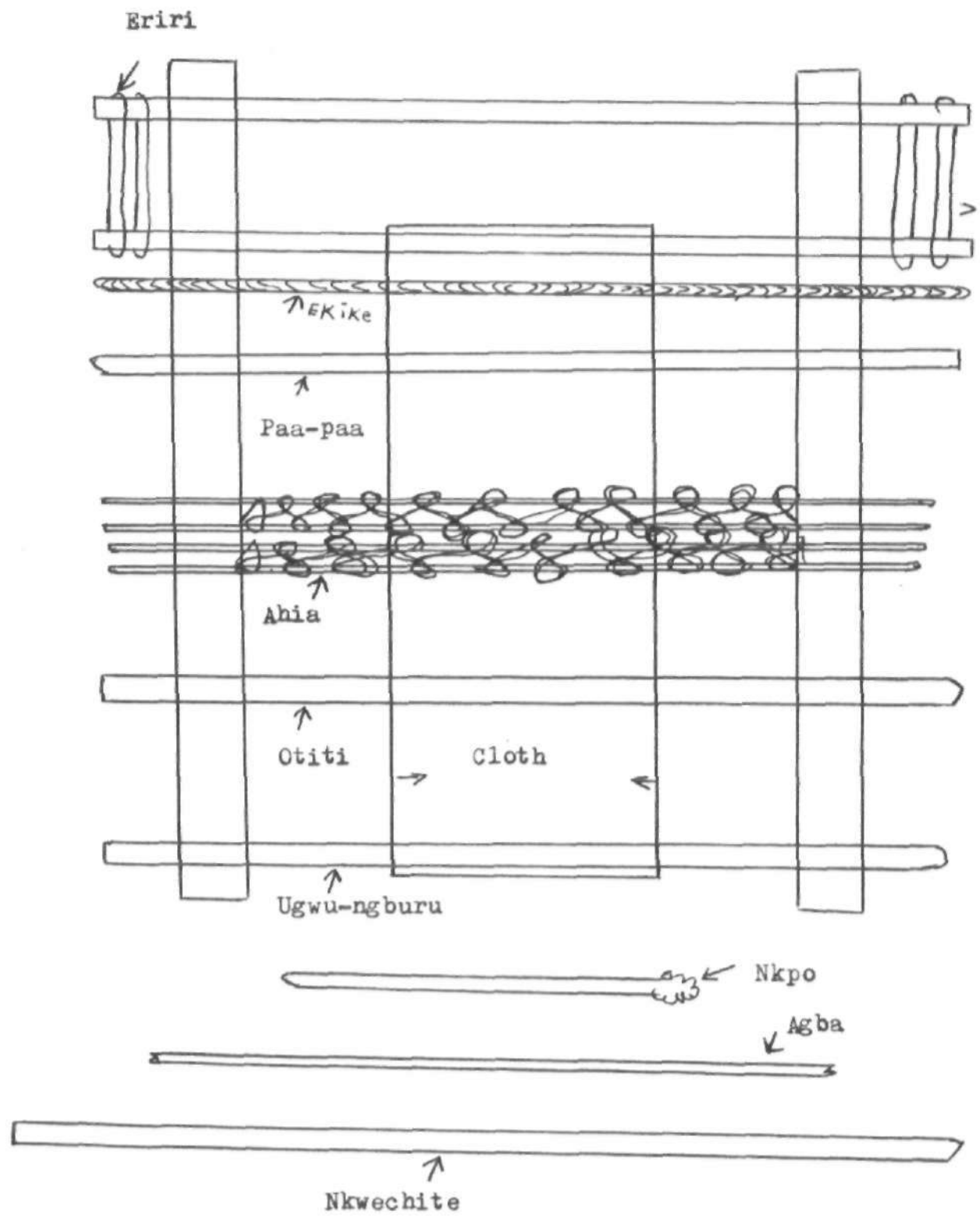


Fig. 2.2 Modern Akwete Loom and Weaving Instruments

2.4 Akwete Weaving Instruments

According to Ali /1986/, varieties of instruments are used in different localities for the purpose of weaving the contemporary and traditional cloths. Tools required in the patterning technique in Akwete weaving include the Otiti, Paa-paa, Nkwechite, Ekike, Ugwu-Ngburu, Agba, Ahia, Nkpo.

2.4.1 Otiti

The otiti is one of the Akwete weaving tools. Otiti has an egg shape, but the equipment is much longer than an egg diameter. Mrs. Ogbonna made mention that the otiti tool performs the function of keeping the warp yarn open when the shuttle is to be inserted across the warp yarns during weaving process.

2.4.2 Paa-paa

Adetoro /1984/ described paa-paa as a flat blade which serves the function of separting the warp yarns.

2.4.3 Nkwechite

The Nkwechite loom instrument is an oval flat blade. The tool is a permanent loom equipment. According to Mrs. Nwankwo, the Nkwechite serves to keep the warp yarns secured and apart during patterning.

2.4.4 Ekike

Ekike is constructed in a round groved teeth-like form. One face of the rounded object is carved with grooved teeth from one extreme end to the other end. The grooved teeth-like shape appears to divert to opposite sides a distance from the middle of the rod. It was reported by Okeke /1982/ that the tool serves to hold and maintain the warp yarns in between the carved grooved ends or teeth firmly during patterning.

2.4.5 Ugwu-Ngburu

Ugwu-ngburu is a perfect round wooden tool. Plumer /1970/ observed that the object is attached to the end of the cloth. It performs the function of cloth winder.

2.4.6 Agba

The agba was observed to have two carved edges to facilitate the winding of weaving yarn. Fagg /1974/ found that the tool performs shuttle function.

2.4.7 Ahia

It serves to regulate, by providing means for counting or selecting the required yarns in laying the pattern area. According to Lamb et al /1980/,

as many as twelve (12) of these tools may be used when patterning a very sophisticated Akwete cloth design.

2.4.8 Nkpo

The Nkpo tool is a product of Metal work. Nkpo is manufactured from brass metal. The instrument is an extraordinary Akwete tool which performs double functions.

Okeke /1982/ reported that Nkpo instrument serves an important function in beating inlay threads in popo cloth. It also serves in raising pattern warp to lay in extra weft. See figure 2.2.

2.5 FIBRES USED IN WEAVING AKWETE CLOTH

2.5.1 Bast Fibre

The oldest Akwete cloth was woven from bast fibre. It was stated by Eicher /1975/ that evidence exists that bast fibres were used in Igboland in the 15th century. She supported her statement by emphasising that the archaeological finding in Igbo Ukwu textile remnant of over thousand years has been identified as Akwete cloth and described as a product of bast fibre.

Akwete weavers derived their bast fibre from stems of plants. Picton et al /1979/ reflected to the point that the hibiscus family yielded bast fibre of good quality for weaving, netting and cord making. Even though bast fibre is no longer in use by Akwete weavers, the fibre is currently being utilized in some parts of Nigeria. Picton et al /1979/ stated that the Yoruba women weavers of Owe Kabba still use the bast fibre in combination with cotton to weave ritual cloths and that those ritual cloths serve commercial function when traded to Benin Kingdom. He affirmed that the bast fibre cloths are the most costly burial cloths in Igbiraland of Nigeria.

2.5.2 Cotton Fibre

Cotton fibre is as old as any other wild flowers found in Igboland. Mrs. Iheme, an elderly lady is a living witness who observed a few cotton plants grown wildly in neighbouring bush around the residence areas in Acha, Isuikwuato local government of Imo State. It was proclaimed by Afigbo et al /1982/ that Otanchara clan of previous Okigwe Division was noted as cotton growers and probably prolific weavers of repute. The source further believes that the practice of cotton growing and hand spinning had its traces until late 40s in the area. Otanchara cotton producers may have traded the spun and the unspun cotton to other localities in Igboland where mass traditional weaving was undertaken. He, Afigbo, affirmed that traditional cotton spinning for the purpose of weaving Akwete cloth is no more in vogue in Akwete region.

The Nigerian cotton is worth discussing since Akwete weavers have excellent trade relationship on yarns with Ijebu Ode of Yorubaland in Nigeria through Opobo which was the centre for trade. Eicher /1976/ drew attention to the point that the western cotton reported by the early explorers was of good quality and can be rated as an equivalent of Louisiana grade and of better standard than Indian

cotton. She accounted that cotton is so easily grown that it is orten times found grown along with rood crops. She paused to mention that Africanus Leo reported that cotton was grown near Kano in Northern Nigeria. She elaborated that Ling Roth stated of cloths made from cotton in Benin by 1519. Idiens et al /1980/ stipulated large scale production of Akwete cloths from cotton in 15th century.

Cotton grown in Nigeria is capable of providing natural variation of colours to cloth. Picton et al /1979/ pointed out that there exists a pale brown natural coloured cotton. Eicher /1976/ agreed to this view and added that Nigeria has additional natural colours and texture in the range of - white, tawny and pale pink.

Akwete is for the major part woven from commercial and imported rayon yarns. Plumer /1970/ acknowledged that it is difficult to estimate the quantity of commercial yarn to traditional yarn. Eicher /1976/ saw this view positive and inferred that not withstanding the increase in production of cotton yarn by indigenous cotton milling industries, Nigeria is still importing lustrous weaving yarns. According to her, there is great competition between traditional hand-spun and industrial-spun cotton. This, she believes is because majority of Akwete weavers prefer commercial-spun

yarnssince they are more even and does not break easily as the hand-spun cotton yarn. Handspun cotton cloths is highly cherished in some parts of Nigeria. Lamb et al /1980/ asserted that cloths woven from hand spun cotton is still the most expensive among the Ekiti-Owe of Western Yoruba.

2.5.3 Rayon Fibre

Imported synthetic rayon is one of the fibres used in the weaving of Akwete cloth. Okeke /1982/ emphasised that the striking qualities found in Akwete cloth is derived from the use of rayon yarn. He stressed that the rayon yarn distinguishes the recent time Akwete cloth from its traditional origin of akwa-mmiri type denoting towel. His belief is that the rayon yarn was adopted by madam Dada Nwokata from Acham cloth imported into Akwete region by Potokiri (Portuguese).

Rayon yarn is one of the early substitute to natural cotton. It was stated by Thomson /1976/ that rayon belongs to the cellulosic fibre (man-made-fibre). She indicated that silk fibre, which was later named rayon fibre was the first man-made fibre and therefore was able to reduce the quantity demand on natural cotton. It was mentioned by her that the yarn was

made by Chardonnet who collected Mulberry leaves, a feed for the silk worms, and made this into pulp and treated with nitric acid which was spun to filament in 1864. She accounted for the fact that Swan of Kent discovered viscose. Cuprammonium and acetate fibres in the same period as Chardonnet. She found it fascinating that Swan's fibres were of better quality than the Chardonnet fibre. The Chardonnet silk fibre was improved based on Swan's finding and named rayon in 1925.

There exists a scientific method of producing rayon fibre than the technique of using mulberry leaves. Thomson /1976/ emphasised that rayon fibre is presently derived from cotton linters or spruce wood raw material. She found that the production of rayon is in three stages - to obtain pure cellulose from raw material, to form a thick treacle-like liquid from cellulose, to spin the liquid into hardened fillaments. Judging from the processing of rayon fibres, it is not possible for Akwete weaver to produce individual rayon for personal weaving. They must continue to purchase commercial yarns as of now.

2.6. Spinning Methods Used in Producing Akwete Yarn

Spinning is a technique used to draw and to twist fibre into yarn. Spinning is therefore differently achieved in the case of man-made fibre rayon whereby

the method forms the yarn by extruding a viscose while it hardens the fluid, thus fibres are obtained.

The cotton fibre used in present day Akwete weaving is derived from technological and industrial processes. Nevertheless, handspun cotton are still available in local markets. Lamb et al /1980/ is of the opinion that the existence of the hand spinning is today practised by traditional professional spinners who do not endeavour to weave and by older Akwete weavers who have stopped weaving due to age problem. Other reasons surrounding the circumstance, was analyzed by Plumer /1970/ who acknowledged that traditional spinning was a common endeavour in the past and is still sometimes undertaken at leisure periods by women, among cotton growers. Eicher /1976/ who observed traditional hand spun Akwete yarn described it as rough, coarse and appearing stable and lasting when adequately processed by rule.

The Akwete hand spun cotton will usually undergo preparatory stages. Held /1973/ mentioned that seeds extraction and the removal of other extra-body impurities are necessary. It was stated by Newman /1974/ that metal bar is rolled over cotton firmly on a wooden device. Jefferson /1974/ who appraised Newman's statement added that the ginning and the carding steps are then undertaken.

This traditional carding method involves the use of a bow. Warner /1974/ found that the bow is designed from a cane-object, bent in manner of semi-circle by means of twine bowstring. The technique of bowstring was confirmed by Eicher /1976/ who indicated that in practice, the left arm is placed to handle the bow, while the bowstring alternately rotates and gets in contact with cotton fibre. She elaborated that under this method, the cotton fluffs become straightened.

Akwete spinning device is different from the popular technique used by Yoruba weavers. Eicher /1976/ observed the rested type of spindle in Yorubaland while the mobile type of distaff used along with spindle was found in Igboland, especially in Akwete locality. She, Eicher, emphasised that the major advantage of using the distaff together with spindle is that at the end of every spinning, the spun yarns are wound directly onto skeins.

2.7 Dyestuffs Used in Dyeing Akwete Cloth

It should be noted that colour has relationship to warmth and is significant in this study. According to Wright /1969/ all coloured surfaces absorb light, and hence tend to be warmer than uncoloured (white) surface. He, Wright, found that more especially, black

colour surface is expected to be relatively warmer than others since a black surface absorbs all the light that falls on it and reflects none.

Akwete yarns are processed before weaving activity. It was detailed by Okeke /1982/ that Akwete yarns are dyed after spinning. He, Okeke, advanced to enumerate ways in which local dyes are extracted and used on Akwete cloths. He is positive that some colours are more widely used in the dyeing of Akwete cloths due to cultural belief.

Afigbo et al /1982/ noted that the aji bark cloth which was the oldest Igbo cloth before the discovery of weaving had original dark colour. His belief is that dark colour therefore is a symbol of power in Igboland. Picton et al /1979/ who is also convinced that colours denote meanings among Africans reported that red is a symbol of success in Igbiraland while the same red signifies burial cloth in Madagascar. Okeke /1982/ is certain that dark colour is still popular in Igboland and supported this statement by adding that the highest colour used in dyeing Akwete yarn is the fast indigo (AKWUKWO NDO). He detailed that the Equiano's blue indigo was derived from 'Uri' or from shrub of 'alulu'.

Other colours used on Akwete were found by Plumer, /1970/ and Lamb et al /1980/ to include red, black, white, yellow and green. Red on the other hand was observed by Okeke /1983/ as derived from Camwood (Uhie). He indicated that the Camwood was ground on stone and diluted with water as required. The solution was filtered to extract the dye. He distinguished that the Aku, Nsukka weavers of Northern Igbo, obtained their red dye through the steaming of back of Okpeye tree.

Yellow dye was prepared by grinding a yellowish camwood which was solubilized and filtered. Okeke /1982/ acknowledged that another method of dye extraction involves the direct(non grinding) soaking of the same camwood, for a period of time.

Further more, according to Okeke, Mrs. Catherine reported that the 'ububa' tree produced good quality yellow dyes. Black dye was obtained by burning cow epidermis. He also indicated that another alternative method to deriving black dye includes the dissolving of ash from burnt wood in water and by boiling the seed of oil bean tree.

Okeke specified that most weavers of Igboland dyed their cloths for themselves with the exception of Nsukka and its surrounding weavers. It is believed that this area preferred the professional Igala dyers

to dye their cloths for them. The Aku weavers from the same Nsukka were singled out because this community was noticed to dye their cloths by themselves.

Fashionable colours dictate the nature of dyes used in dyeing Akwete cloth. Jefferson /1974/ expressed that a Nigerian woman is not likely to wear an item of clothing from the previous year if the colour is out-dated.

Lamb et al /1980/ stated that the Akwete weaver finds it important to know current fashionable dyes. She points out that the information on trends of colour is communicated to Akwete weavers through the middle men traders in the Central cities of Nigeria such as - Lagos and Kano, etc.

Mrs. Eunice Nwankwo of Akwete weaving centre reported that in recent years, precisely from the middle of 1986, Akwete cloth colour scheme reflected tones of navy blue, yellow and to some extent, green. Green,she noticed,. has declined. She added that white and red have remained neutral for some time. Mrs. Eke observed that pink, violet and dull red have been integrated among contemporary Akwete cloth dyestuff shades by 1988.

Indigo dye as observed by Plumer /1970/ was the oldest dye in Nigeria and was the first dye to be used in dyeing Akwete cloth. He specified that Indigo dye was obtained from indigofera raw material leaves.

To extract the dyestuff, the indigo leaves under went certain processes. Warner /1974/ explained that the leaves are pounded in a mortar. The pulps are moulded to desired forms and preserved to dry. Newman /1974/ commented that wood ash is required in the preparation of indigo dyestuff. It was mentioned that each moulded dye ball should be dissolved in caustic soda before use.

Air must be kept off when agitating the dye bath. Warner /1974/ stressed that after sufficient stirring the dye bath must be filled with water and covered with planks or similar object for about twelve hours for adequate dye extraction. She, Warner, pointed out that the function of caustic soda is to facilitate the attachment of the dyestuff molecules to the molecular structure of the fibre when cloth or fibre is immersed into the dyebath.

2.8 Techniques of Weaving on Akwete Loom

Weaving is one of the oldest human activities. Fagg /1974/ speculated that loom weaving was probably developed in different communities and period during the time of early discoveries. He indicated that weaving may have been introduced in Nigeria by immigrants in 14th century. He added that typical Akwete cloth is woven on the vertical loom.

Akwete cloth production originates from the interlacing of dual groups of yarns - that is the weft locking into the warp. It was observed by Adetoro /1984/ that the warping of Akwete cloth begins after the cotton yarns have been sized and dried. Okeke /1982/ in his support stated that warping is done with the assistance of an ngarangara (fly wheel) to tighten the warp yarns into three, or four-folds in balls shape. He further speculated that the left cord supports the warp beam from the top frame (cross bar) of loom which is tilted while the warp beam is slightly lowered to that side prior to warping.

In the process of warping, Okeke /1982/ found that a ball of warp yarn is unwound under tension, by crossing it over the warp beam and below the back of loom passing it beneath the horizontal bar (cloth beam) while passing the yarn upwards in front of the loom and by crossing it over the warp beam once again. He, Okeke, explained that the process is repeated six times and the lease rods (paa-paa) inserted to disintegrate the odd and the even yarns to form two primary sheds. He further mentioned that the weaver makes use of her left hand to arrange two lease rods while the right hand regulates warp yarns over and under primary and secondary lease rods. According to Adetoro /1984/ the warping is advanced by unwinding yarn balls over the

warp beam underneath the cloth beam, over the primary lease rod, and under the secondary lease rod then over the warp beam while interchanging direction of warp float from the two lease rods until full warping is achieved.

It was emphasised by Eicher /1976/ that tension regulation is usually placed higher on the right half of the loom at warping point. Lamb et al /1980/ was positive to the statement and inferred that this difference in tension regulation is not the result from the previous arrangement which lowered the left end of the warp beam before the warping. Okeke /1982/ in support to Lamb's inference, detailed that in practice, the unevenness in tension is present even when warp beam is maintained parallel with the top cross bar prior to warping. He then suggested that this recognized difference in warping tension can be adjusted to some extent by shifting up the lowered left edge of the warp beam to its former position through the readjustment of the cord linking to the top crossbar. He added that distortion of the cloth from warp tension difference is greater when cloth is woven by an inexperienced weaver.

According to Okeke /1982/, the primary heddle rod (ahia) is then woven in at the the completion of warping. He remarked that the number of heddle rods (or shifts) used in a particular Akwete cloth weaving is determined

by the complexity of the pattern. He asserted that when numerous heddle rods are required, the warp yarns are selected according to pre-arranged order or key method. It was contended by him that the pattern rod is introduced to raise yarn as needed, to weave in designs as pre-arranged order.

He, Okeke, stated that a string creating loose loops on a single or group of key yarns are attached to a pair of thin rods hanging on the top of the yarns to form extraheddle rod (Ekike). He believes that weaving can then be initiated once the heddle rods are readily attached.

It was witnessed by Okeke /1982/ that a shed is formed when the main shed-stick (Nkwechite) is inserted with the assistance of the shed stick. It was found that a rod (ugwu-mpuru) is inserted from the top of the cloth beam to support the starting picks in order to strengthen or make the warp. Furthermore, it was observed that the weaver is then aided by the ngarangara instrument to wind weft yarns onto a flat blade (agba) with deep cut at either edges to hold the layers of weft yarns. He speculated that the blade or shuttle (agba) once filled with yarn is passed through the shed from one side of the loom to the other side until required weaving length is completed with each web

beaten with the sword (Otiti) to pack the yarn. The picture or inlay weaving with nkpo which serve as a bobbin is shown in Fig. 2.3

The Ibo-speaking weaver

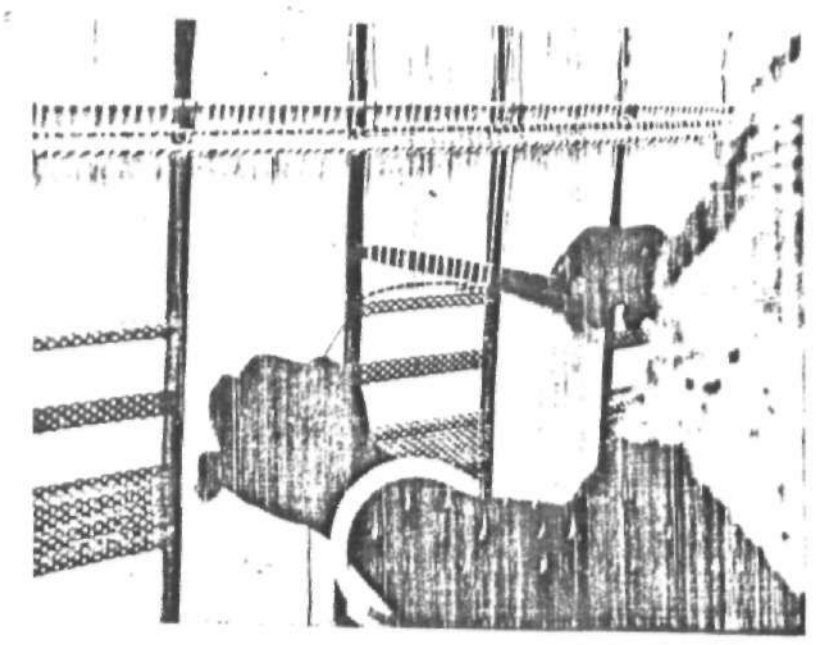


Fig. 2.3 Inlay Weave with nkpo

2.9 Execution of Motifs on Akwete Cloth

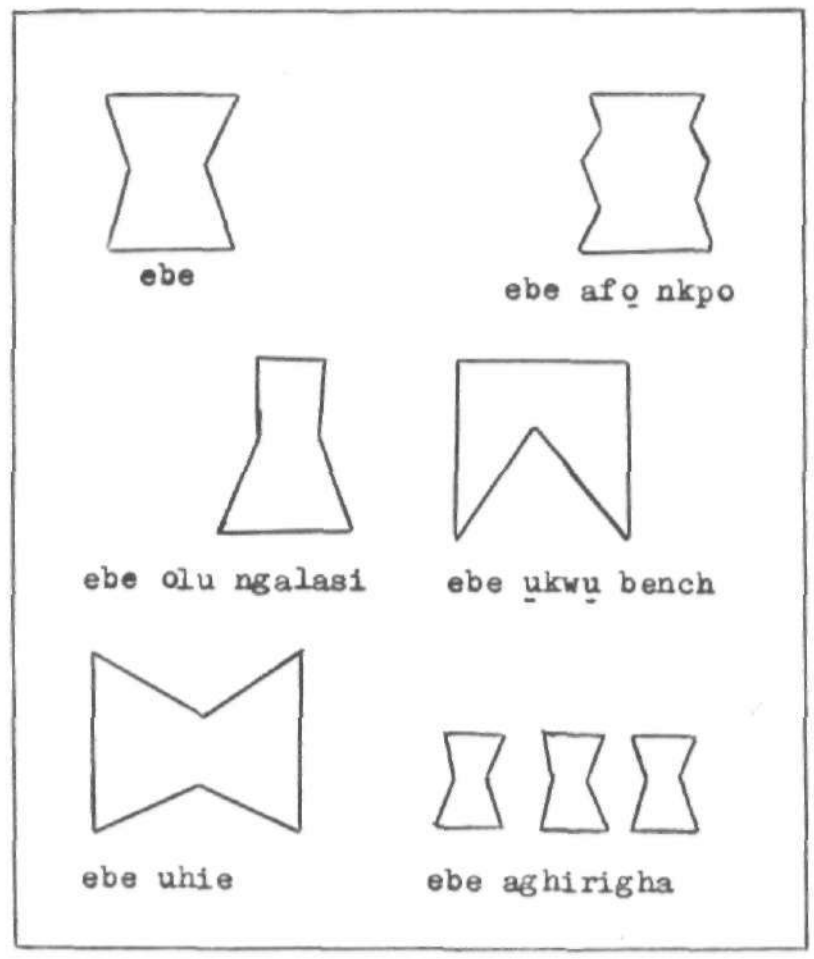
The background of Akwete cloth is woven from cotton yarns. On the other hand, decoration and embelishment of the cloth is achieved from rayon yarn. Nicher /1976/ believes that various lustrous rayon gold and metallic yarns are used as extra-wefts for execution of motifs on Akwete cloth.

Yarns are cut to desired lengths for the inlay insertion when patterns are at random distribution across the width of the cloth. As Okeke, /1982/ stressed, when motifs are scattered on the surface of Akwete cloth, the beater-in (otiti) can not be used for beating-in the short lengths of extra-weft. He, Okeke pointed out that a flat blunt edged brass tool (Nkpo) is employed for raising the specific pattern warps to lay the extra weft under the elevated warp and to beat in the inlay yarn.

The decorative patterns of Akwete cloth ranges from plain stripes to very complex motifs. In an observation by Okeke /1982/, embelishment motifs on Akwete cloth includes domestic animals and ritual objects floated over the plain ground cloth. He in this attempt, found that the Akwete weavers are constantly incorporating new designs with some exhibiting modernistic influences. He then enumerated some Akwete cloth designs such as 'nnadede', 'air condition', and 'nnunu' as having modern motifs. He advanced to single out the 'air condition' cloth as derived from a complete non indigenous motif. Apart from this cloth, there exists also the 'FESTAC' cloth with modern motif.

The indigenous Akwete motifs include 'ebe' and 'ikaki'. Okeke /1982/ speculated that the ebe motif is a dumb-bell object which is varied in shapes of -

'ebe afo nkpo', 'ebe aghirigha', 'ebe olu ngalasi', 'ebe akara', 'ebe uhie', 'ebe olu ochi', and 'ebe ukwu bench'. Varieties of combinations in ebe motifs are exhibited in Figure 2.4.



The ikaki motif is a fashioned tortoise. Okeke /1982/ emphasised that the tortoise is a sign of peace in Igboland. He added that whenever peace making was attained by two villages, a tortoise's leg was pulled out and nailed to the ground in between the boundary as a symbol of tranquillity in enmity between the disputing villages. In this direction, he, Okeke found

that the ikaki motif, which is a diamond shape, has its tortoise-like fore and hind legs extended over the background cloth forming two parallel lines while its lozenge body lies between the legs as the ikaki cloth motif.

Ikaki or tortoise is also present on the other contemporary Nigerian cloths such as Ijebu Ode cloth woven in Ogun State. In regards to tortoise motif, Okeke /1982/ stated that, based on the 'Ikaki' motif, Forde and Jones /1962/ reported that Akwete is 'a southern diffusion of Yoruba craft through the delta region'. He, Okeke drew attention to Forde and Jones statement as indicative of the Yoruba woven motifs being discovered in the same period as the Akwete motifs. He then emphasised the point that the lozenge motif is not truly Nigerian in its type. He reminded that Kiewe /1955/ reported that the lozenge motif is commonly found on Hausa embroidery, Akwete cloth, and the Eastern mediterranea . cloths and therefore difficult to prove who copied from who. He arrived at a conclusion that it will be rather difficult for authors such as /Lamb et al 1980; Plumer 1970; Eicher, 1976; Idiens et al 1980/to validate their statement which inferred that because the 'ikaki' is similar to the Ijebu Ode 'oni' motif it is therefore copied from the Ijebu Ode people. He mentioned that other non indigenous Akwete motifs include 'Nigerian Coat of Arm's' and the 'Flag motifs'.

The design infusion stated by Okeke was favoured by Jefferson /1974/ and Trowel /1960/ who acknowledged that the motifs such as the anthromophic, or zoomorphic, which are present on Hausa cloths with reference to the Limawua horizontal loom weavers, north of Kano is also available on Akwete and on Yoruba cloths.

Warner /1974/ declared that some sources of the decoration embraced proverbs, tribal thoughts, religious, social, political and economic reasons. Okeke /1982/ in support confirmed that the Akwete 'coat of arms', the 'flag' and FESTAC' provide measures in recording Nigerian political and social history.

Afigbo et al /1982/ reported that ceremonial striped cloths pose the most complex of all striped cloths which however, undergo sophisticated method of production. This point of view was adhered to by Lamb et al /1980/ who emphasised that the weft band of striped cloths are produced semi hidden, thereby permitting the warp yarns to remain exposed on the face or right side of the cloth.

The inlay and float motifs are the more recent development on Akwete cloth while stripes are the older patterns. Lamb et al /1980/ observed that by 1844, inlay float was not present on Akwete. In an examination of motifs of Akwete cloths of the Beving collection kept by the British Museum London, she confirmed that

these 1930s Akwete cloths had the zoomorphic, anthromorphic and the hourglas motifs only.

Akwete motifs are derived on geometric abstract in contrast to true representational motifs previously conceived through writers such as Trowell /1960/ and Plumer /1970/. The contradiction was strongly opposed by Lamb et al /1980/. She reported that the motifs of the Akwete cloth such as 'coat of arms' plus two other similar design motifs are woven on semi representational origin and not true representational motifs. It was further stressed by her that the ikaki motif which was thought to be representational motif, is also a semi representational motif based on abstract origin.

Jefferson /1974/ believesthat all traditional woven cloths derive wholely or partially their motif source from Koranic verses. He explained that the 17th century proverb, bisimillah style script of ancient kings, 19th century double script and Arabic caligraphy contributed to these traditional motifs.

There exists individual meaning attached to some motifs which often times become the bases of naming such cloths. Plumer /1970/ in his analysis found that even when a cloth appears not to have a name

that the weavers and their apprentices will usually have a name for such Akwete cloths. He specified that the most common design motifs are selectively assigned names. He indicated that more traditional motifs comprise maltes cross, chessboard, sleeping mat, and the fruits of oil bean tree. In agreements with Plumer, /Eicher 1976; Afigbo et al 1980; and Lamb et al 1980/ proclaimed that preference for old traditional design motifs are high, even with the development of new design motifs. Idiens et al /1980/ admitted that old traditional belief behind ikaki motif in the past, was associated with the kingship in Opopo.

2.9.1 Repetition of Motifs

Akwete motifs are extended from a few basic motifs repeated to form several design patterns. Lamb et al /1980/ noticed that the Akwete repetitional motifs range from two to four with these numbers of motifs repeated severally. Okeke /1982/ is of the same opinion and emphasised that the 'ebe motif' alone is varied into seven different structures. He commented that the variation of motif is dependent on the choice of the client and added that in other situations a designed motif may be originated by the weaver and tried out in the market for acceptance.

The 'oil boom cloth' is one of such recent designed cloths. Lamb et al /1980/ stated that a traditional stool-like object and stripes combined to form the motifs of the cloth. A longitudinal and a crossed-stripe structure form a square at both edges of the cloth. She, Lamb observed that the 'george cloth' is one of the oldest Akwete cloths. The 'george cloth in its design repeat is constructed on a totality of stripes. Four basic stripes of different width form the cloth pattern. Lamb et al /1980/ grouped the 'Agbani cloth' under the oldest Akwete cloths. The 'agbani cloth' is constructed on the repeat of crossing warp and weft yarns which gave the cloth the effect of mini checks with solid border.

The 'Mbubo cloth' owesits pattern to a repeat of bright yellow and white objects which has a resemblance of comb motifs. The pattern incorporates pointed squares and a chain of double squares, along with a brown and white bold and thin stripes, executed over a white and black background. The 'Aziza cloth' is a modern Akwete design. Lamb et al /1980/ believes that the design is the repeat of a chained white and red ikaki motifs.

It was observed by Okeke /1982/ that the 'uto naikaki cloth' is another recent Akwete cloth. The cloth pattern is the repeat of yellow and black mini

checks with black and yellow ikaki motifs over a red background. Lamb et al /1980/ found that the 'fig cloth' is a newly created Akwete cloth. The cloth is evenly divided by green solid lines, while group of squares are worked onto the areas within the solid lines on a red background.

According to Okeke /1982/, the 'Dada Nwakata cloth' is the complex design of Akwete cloths. The pattern repeats spotted motifs arranged in vertical straight lines. The largest of the squares are located in the centre of the cloth while several stripes repeat to divide the cloth in equal parts. It was realised by him that the 'Mkpekele elere' is another new pattern design. The cloth is patterned with an unwoven border all round the edges. The mini diamond motifs repeat with rew stripes joining the highest point of the diamond squares with the diamond lowest point.

Lamb et al /1980/ established that the "Afia cloth' is a rare basket weave cloth. The afia pattern embody crosses all over the cloth surface. It was reported by Okeke /1982/ that the 'Coat of Arms' with star is one of the most skill-requiring designs to produce. This statement was supported by Lamb et al /1980/ who remarked that the cloth is very sophisticated and has a rare semi-representational motif. In this pattern technique,

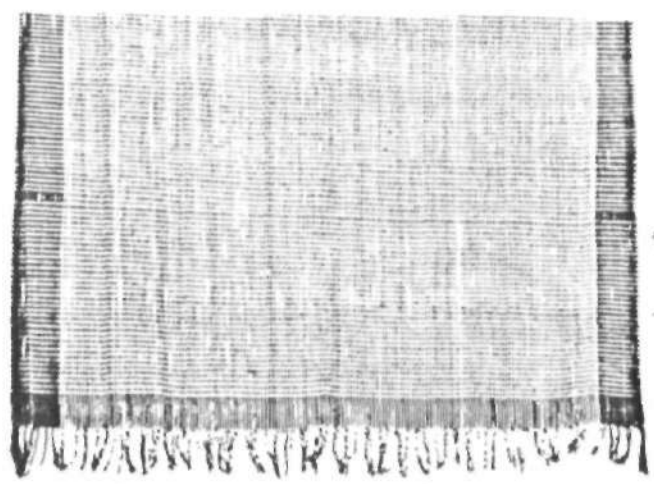
the motif is the repeat of an upright standing horse supporting the Nigerian Unity and Faith symbol with its feet while the eagle is executed to stand in between the two upright standing horses to the top. The unity and faith symbols are woven in a vertical straight line across the fabric while the star motifs repeat to separate the symbols in between rows vertically. 'Ipere ndioma cloth' is the repeat of spotted and checks motifs at interval in stripes manner.

Another vivid pattern of Akwete cloth is found among collection by Hartle Washington D.C. which was used to adorn Sieber's book of African textile and decorative arts. The cloth is the repeat of all over miniature red, green, yellow and white diamond motifs introduced on the black background.

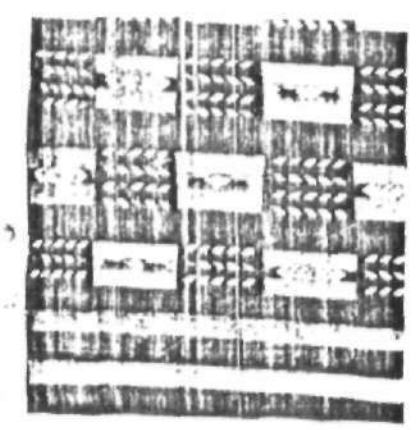
Sieber /1972/ observed that many Akwete patterns are brocade and prestige design. He, Sieber believes that the most complex Akwete cloth pattern is found with the brocade cloth. He reported that brocade is woven by the Akwete, Okene and the north of Benin people and its kind produced by the Nupes. Picton et al /1989/ agreed to this point and added that the most extraordinary woven brocade is that produced by the Akwete weavers of Ndoki region. It was contended by Sieber /1979/ that these repeats occur from the use of extra heddle in patterning

the Akwete cloth. He explained that brocades are obtained through varying or many colours of extra weft, which are initially not a part of original weft but apart of the weft of the cloth on its surface only.

The construction of brocade is derived from three sources. Held /1973/ expressed that the warp, the weft and the web combined to yield the brocade pattern. He indicated that brocade yarns during patterning can be either continuous whereby the yarns remain constant or unbroken as the pattern is created from one selvedge to the opposite selvedge (across the cloth) or the yarn may be discontinued after each pattern. He confirmed that the advantage of discontinuous brocade patterning over the continuous method is that it enables the weaver to decorate cloth randomly and in various styles.



This older type Akwete cloth, called aghani, is now worn only by the elderly. Note the selvedge holes, called nkpose.



An Akwete cloth meni egere bite, woven for the women of the Court of Bonny.

Fig. 2.5 Some Akwete cloth motif repeats

2.9.2 Design Pattern

Akwete pattern is complex. Picton et al /1979/ believes that the weft float pattern is the number one Akwete cloth pattern. He further added that the second pattern is found with the band wave length weft - wise pattern. It was speculated by him that there exists a third pattern of extra weft motifs with similar repeated motifs. Okeke /1982/ in his support grouped these patterns into three categories - 'george cloth', 'Popo cloth' and the Akwete cloth. Lamb et al /1980/ adhered to the same opinion and described the 'george cloth' as having its pattern design based on stripes and checks, the 'popo cloth' comprising a pattern structure derived from inlay pattern, while 'Akwete cloth' group is made up of semi-representational objects. The latter has been observed by her to be distinctive from all other women's vertical loom cloths of Nigeria. She reported that the cloth is accomplished in highly advanced pattern techniques which often are wearable from either side of the cloth (reversible). Okeke /1982/ agreed to this view and remarked that Dada Nwakata pattern cloth is one of the elaborate patterns of reversible cloth.

Trowel /1960/ speculated that patterns made from weaving are of two categories. She mentioned that plain weave type is achieved by variation of colours

of yarn within warp, weft or by varying both. She detailed that the second category is obtained by assembling colours in warp yarn. It was pointed out by her that the latter type will produce vertical and horizontal stripes with variation of colours. This point was accepted by Newman /1974/ who noticed that the weft arrangement of colours yield horizontal stripes motif across the cloth. Held /1972/ is of the same opinion and stated that the use of crosswise and vertical stripes alternately produces check pattern. Trowel /1960/ has the same notion as Held and emphasised that the use of crosswise and vertical strips method produces six varieties of colours. She indicated that a warp directed weave pattern is achieved when warp yarns are greater than the weft yarns although in such patterning, the weft is unexposed.

Trowel /1960/ in addition found that the width of bands of colour plus the alteration of different sizes of yarn creates another variation patterns while other patterns are noted to be derived when a variety of coloured yarn cross over one or more yarns and grouping into pairs. She further believes that the use of undyed double weft yarns on the correct side of cloth along with the dyed yarn executed into a pattern area from the reverse side

of cloth produces additional pattern. She noted that under this technique, the pattern becomes invisible on the opposite side of cloth. She commented that all basic geometrical designs are woven in this manner. She accounted that geometrical motifs are extended through a wide range of experimentations, and may range from intricated diagonal, zig-zag, triangles to lozenge pattern motifs. She added that more variations are still possible depending on the creativity of the weaver.

When patterns are achieved through experimentation by the experienced weaver, the object may be so precise as to tell of circumstance from which they have been derived. As to this, Trowell /1960/ remarked that many patterns are extensions of existing designs. She reported that the resulting pattern from such variations can appear more complicated than the original pattern while in other situation, the varied design may become simpler than the previous pattern. Lamb et al /1980/ noticed that Akwete decorative pattern technique also include selvedge ends decoration which are adorned with array of holes.

Held /1973/ in his address, informed that the urge to beautify cloth probably was introduced simultaneously with weaving itself. He believed that civilization may have contributed to the evolution of embelishment technique. The following part will

focus on the evolution of Akwete cloth. The differences and the similarities between the traditional and the contemporary Akwete as they affect the cloth performance will be discussed.

2.10 Evolution of Akwete

2.10.1 Traditional Akwete

The techniques in weaving the traditional and contemporary Akwete are similar in the area of loom set up procedures. Nevertheless, there exists some differences. The traditional Akwete george cloth has its motifs appearing on both sides of the cloth. Another difference occurs in the use of yarns and dyes. It was reflected by Picton et al /1970/ that Akwete cloth can only be included under the traditional Akwete type if such Akwete cloth is produced exclusively from hand spun cotton yarn and dyed from traditional extracted dyes. This view was supported by Kparevzua /1983/ who stated that all traditional Nigerian textiles are woven from locally processed fibre.

Many years ago, Newman /1974/ quoted that Fagg reported that the best in African art is fading away. It was not until 1980 that Lamb et al /1980/ made the observation in African art and confirmed that the earlier Akwete cloths (traditional Akwete) kept by the Mankind British Museum which she inspected had

retained their beauty since the 1920's because the cloths were woven from handspun cotton yarn and dyed from traditional processed dyes. This view was supported by Picton et al /1970/ who concluded that the Akwete cloths woven prior to 1920s (traditional Akwete) were resistant and have greater wearing ability with superior fastness to sun and moisture than the recent years woven Akwete cloths.

According to Mrs. Goldstone, the traditional Akwete is still available in a moderate quantity. This statement was supported by Mrs. Nwanguo who added that she produces 50 - 200 pieces of traditional Akwete in a year. She advanced to mention that the traditional processed dyes and yarns are found in Akwete local market and in Akwete neighbouring towns. Mrs. Goldstone of Akwete technical Secondary School expressed that the traditional Akwete cloth is today woven from 'Commerce yarn' which are fast-treated by indigenous Nigerian Companies in Aba. She confirmed that the traditional Akwete is still of good quality. She emphasised that true traditional Akwete cloth is produced from local material and free from imported yarns and dyes; in order words, imported rayon yarns are not even used in decoration of the traditional cloth.

Lamb et al quoted Talbot to have reported an example of traditional Akwete with "Akwa Mmiri" (water cloth). She believes that the cloth had a

basic pattern derived from mini checks and a striped border and did not run colour. Akwa Mmiri as deduced from the cloth name, was actually used as bath towel. because the cloth did not run colour. She remarked that whenever the Akwa-Mmiri cloth is seen at present, it is in possession of the elderly or used for traditional ceremonial purpose. Okeke /1982/ emphasised that while akwa-mmiri cloth is no longer popular in Akwete region, traces of the cloth is still found in Nsukka and Abakaliki in recent days.

2.10.2 Contemporary Akwete

It was observed by Okeke /1982/ that the existence of difference between traditional and the contemporary Akwete is clear from the yarns and dyes used for each group of Akwete cloth. He speculated that the contemporary Akwete cloth is produced from factory spun yarn which are purchased from central cities by Akwete cloth weavers.

As was confirmed by Fagg /1974/ the Nigerian weaving craft is highly influenced in the area of adaptation of imported yarns and dyes. He added that the designs used on Akwete cloth have succeeded to remain the same probably because the majority of what is woven is consumed within the continent with a few sold to European and American visitors. He admitted that the contemporary Akwete has the greater number of design motifs and a higher visual gratification.

Newman /1974/ found that the new artists are combining traditional arts with contemporary arts due to convenience. He discovered in addition that there exists an attempt to compete with foreign manufactured cloths (goods) in the local market which encourage a shift towards contemporary craftsmanship. He remarked that no matter the level of assimilation from new ideas alongside or cultural heritage from tradition, the African arts still possess African form.

According to Newman /1974/ to remain pure in tradition would mean to desist from acceptance of foreign goods completely, since admittance of one set of goods would signify invitation from many others, thereby inviting foreign influence over local goods. He pointed out that the Japanese enamel ware has replaced carved calabashes, while Lancashire cotton cloths came close to replacing hand woven traditional cloths and the polyethylene to some degree replaced pottery goods.

Newman /1974/ observed that it is easier to maintain tradition when people reside along the old camel route where communication is made impossible for foreigners. The inhabitants of traditional roads of Mali, Upper Volta, Northern Ivory Coast, Ghana and Nigeria have succeeded in retaining the tradition and still wearing the same style of clothing as their ancestors, and live in the same type of house. The

Nomadic Masai have also trained to self reliance level and therefore can retain the cultural heritage.

According to Newman /1974/ factory spun yarns were well accepted by the Akwete weavers. Lamb et al /1980/ mentioned that Madam Ekeke reported that the factory made yarns surfaced in contemporary Akwete weaving by 1920. She expressed that factory made yarns were some how widely used in Akwete weaving by 1930s. Picton et al /1979/ conducted study and found that most of the examples of Akwete cloths he examined were woven from factory spun yarns in the 19th century.

Okeke /1982/ indicated that the contemporary Akwete type is produced from the warp threads which are lashed under tension over the warp beam at right angles, just in the same manner as the traditional Akwete type while the difference lies in the patterning derived from inlay and the inlay floats in the contemporary Akwete. Lamb et al /1980/ who is of the same opinion stated that the contemporary Akwete is readily recognized by its inlay pattern of rayon yarns.

It was mentioned by Okeke /1982/ that the Akwete type is the newest group of all the Akwete cloths while the 'George cloth' and Popo cloth are the older Akwete cloth types. He observed that the refinement in the

design of the Akwete group affords the cloth the merit of acceptance in the Igbo culture in taking title of nobility and for chieftaincy.

Eicher /1976/ reports that the contemporary Akwete cloth or modern Akwete has a peculiar distinction from the old Akwete. She emphasised that the contemporary Akwete cloth is shiny and obtained its glittery effect from the synthetic yarns used in its embelishment. Lamb et al /1980/ warned that the use of factory spun yarn and imported dyes has adverse effect on modern Akwete cloth in their fastness to light and water. The portion below will discuss the traditional values of Akwete cloth .

2.11 Tradition Values of Akwete Cloth

2.11.1 Economic Function

Picton et al /1979/ indicated that the Akwete cloth attracts high trade demand in the central level (Lagos city). He observed that the Igbira and Akoko - Edo cloths also have favourable high trade demand in Lagos city. He indicated that such demand is not available for the Yoruba women weavers, because the Aso-Oke cloth which also has a great demand at the central level is woven by the Yoruba men weavers and not by the women.

It was found by /Okeke 1982; Lamb et al 1980; Idiens et al 1980/, that it is only in Akwete region that weaving is practised on full-time by the women. The crafts-women of Akwete region sell their woven cloths within and outside Nigeria. Okeke /1982/ acknowledged that Akwete cloths are traded to Europe and America where they are used for home and public places decoration. He remarked that Akwete cloth has its highest trade in Opobo, Bonny, Ogoni, Buguma and Okrika areas of the Niger Delta. He pointed out that it requires a full-time weaver an average of ten days to complete a woman's up-and-down wrapper with each single wrapper measuring two metres long and 1.3 metre wide, which were traded at ₦80.00 per set in the year 1982. This same simple pattern cloth has been observed to be sold at ₦350.00 under unfavourable trade condition by 1989 and higher when trade is favourable.

Economic trade in Akwete region with Europeans began as far back as in the 15th century. Idiens et al /1980/ stipulated that this trade existed in two areas - trade along a north-south and the delta, with the second dimension along an east-west across the delta. He found that the Dutch merchants reported purchasing and retrading of Akwete cloth in these two dimensions. He expressed that the mid 17th century was the highest demanding period for the Akwete cloths. He reported that the Dutch by 1644 and 1646 purchased

about sixteen thousand Akwete cloths. He emphasised that these cloths were resold to other places. He drew attention to the fact that the English merchants bought more number of Akwete cloths than the Dutch in 17th and 18th century.

In 1960, weavers of Akwete cloth formed an Association. This association according to Lamb et al /1980/ was designed to protect the economic interest of member weavers by finding new trade outlets and to furnish weavers with information on techniques and current trends in fashion. She acknowledged that the association also provided member weavers with work rooms and stock houses for storage of their products. The development of the association affected the buyers economically. She noticed that the existence of the association broke traditional relationship between weavers and clients thus reducing the bargaining power of buyers since Akwete cloths are sold by middlemen rather than the producers. She indicated that the big time weavers of Akwete cloth are making it because they have additional customers at different locations which include Europeans and affluent Nigerian ladies in Ibadan and Kano apart from the association show room in Akwete town. In addition to this function, Akwete cloth has been observed to perform social functions.

2.11.2 Social Function of Akwete Cloth

The social function of Akwete cloth is observed to be at its greatest value in the Akwete town separated by about three hundred and fifty kilometres of Niger delta. Idiens et al /1980/ has the conception and stipulated that 'ikakibite cloth' is required for tying by a girl leaving a fattening room, a ceremony prior to marriage. He speculated that king Jaja of Opobo normally wore 'ikakibite cloth' when addressing his subjects. He established that the cloth popularly known as 'george' in north of Umuania river in Imo State is functional for marriage ceremonies while it also serves for burial purposes. The following authors /Eicher 1976; Picton et al 1976; Okeke 1982/ also noticed that varieties of Akwete cloths must be bought for marriage deals in Akwete locality. Lamb et al / 980/ gave the same impression as she stated that more emphasis were placed on the quantity of Akwete cloths purchased for marriage deal than it is today. She is of the opinion that the home of the dead is fully spread with varieties of Akwete cloths prior to burial. According to Okeke /1982/ Akwete cloth is used for ritual purposes in Bonny town.

Horn /1975/ reports that cultural or social values varies in different societies inspite of the age-type, sex, and those values acquired from professional attainment. She is of the opinion

that most social activities have accepted clothing type in all cultures. She believes that custom influence accepted clothing for these social functions at a given time at different places. Afigbo et al /1982/ in support to Horne's statement, acknowledged that Akwete cloth is culturally valued and worn by men and women especially during ceremonies in the Igbo traditional clothing context. Shaw et al /1970/ have identical idea and commented that the Igbo-Ukwu archaeological finding in the Eastern Nigeria has proved that the Igbo traditional costume (clothing) consists of a fine plain-weave fabric. He added that the Igbo-Ukwu beads are part of this traditional clothing.

Shaw et al /1970/ contended that Dr. Brain Fagan reported that the following bead types which are sign of Igbo identification and nobility could be compared favourably to Ingombe Ilede of Zambian types. The bead groups are K1 and 2, L3 and 4, N2 and 3, M4 and 5 and U in 'Indian red' colour. He proclaimed that Dr. Fagan acknowledged that the modern beads of type Z can be referred to as recent import from overseas.

As stated by Okeke /1982/ men tie one single panel cloth of Akwete, called "eregbor" (the lower cloth) and a singlet or lion head jumper worn over the wrapper. A lion hat, coral beads and a walking stick are worn in the traditional clothing type during

marriage and burial ceremonies. This point was supported by Lamb et al /1980/ who reported that the women use two of the Akwete cloths as one costume, the eregbor is first fastened as base cloth then the "Ntukwasi" (Upper cloth) is tied over the eregbor. A lace or lion head blouse is worn on top along with a head gear which is often knotted over the head by the women. Coral beads, chains, necklace, gold earrings and bangles are also worn to match the outfit.

Akwete cloth has been observed to serve identification purposes in Kalabari of Niger delta. Lamb et al /1982/ specified from Talbot's report of some cultural organisations in Kalabari, who have their society's name woven into Akwete cloth to identify one another and to illustrate the organization's values. In addition to this, Akwete cloth performs political functions.

2.11.3 Political Function Values of Akwete cloth

It is striking to note how politics finds its way through Nigerian fashion. Lamb et al /1980/ reported that evidence exists to prove that politics influences Nigerian fashion. She stressed that the Akwete cloth of 'Nigerian Coat of Arms with stars' pattern design, incorporates the Nigerian Unity and Faith symbol of 'One Nigeria'. She pointed out that the patterned cloth came into existence immediately

after the Nigerian civil war which is an indication of Nigeria's determination to remain one nation. In addition, Okeke /1982/ confirmed that the Akwete patterned cloths of 'FESTAC', 'Coat of Arms' and the 'Flag' provide means of recording political and social events of Nigeria.

The following portion discusses aspects of fashion designing and the expected sequence to be followed in cold weather garment production.

2.12 Costume Design with Akwete Cloth

2.12.1 Techniques of choosing Akwete Cloth

Authorities in the field of fashion design, /Jaffe et al 1973; Kopp et al 1981; Ledbetter et al 1981/ reported that the first step in any garment designing is the selection of the fabric. This view was supported by Brockman /1965/ who advised that fashion designers should aspire inspiration for their apparel design in view from the fabric chosen for the garment construction.

The choice of fabric for this research - cold weather garment construction is the Akwete, Nigerian traditional cloth. The choice of Akwete was based on literature finding. It was reported by Brockman /1965/ that heavy weight woven geometric, abstract design cloth is appropriately used in tailoring cold

weather garment. Finding from literature is aimed at reducing the problem in fashion designing, because Brockman /1965/ stressed that the most difficult task in designing is the choice of fabric to make cloth suitable for garment in view. She mentioned that coarse cloth with good wearing ability should be tailored to casual wears. Lamb et al /1980/ lent the same view and remarked that Akwete cloth is rough and coarse, because of the nature of cotton spun yarn used in its weaving. Plumer /1970/ confimed that Akwete cloth is resistably durable with its rich geometric patterns which renders the cloth appealing to the eye.

All fabrics have their appropriate usage. Geometric pattern cloth is adequately used in tailoring garment for male and female. In support of this, Brockman /1965/ reported that the first tailored female suit was constructed from the "winter geometrics" (cold season geometrics) fabric by Parisian fashion designer Doucet in 1888. To emphasise that men were even the first to use geometric pattern cloth, Brockman /1965/ reported that Doucet's designed female suits were copied from men's business suit and therefore became known as women's business wear. Kohler /1963/ who agreed to Brockman's view that the women coat was copied from the men's, pointed out that the sleeved waist coat made from either designed

or plain velvet fabric which was an in door male garment (coat) of 1720 had great similarity to Doucet's female coat.

Brockman /1965/ stipulated that whenever a cold weather cloth is needed, be it coat or suit-like garment for both male and female let the geometric design fabric be used. She pointed out that heavy motifs and bold stripes of large lines and bold checks may be combined, one to be used for the skirt or trouser and the other for the coat to demarcate the absolute boldness of some geometric patterned cloths.

Another reason for choosing Akwete cloth is the easiness to tailor the cloth. Brockman /1965/ reported that even though the warm season geometric cloth is cheaper, the cold weather geometric fabric is less difficult when the garment style demands perfect matching of check and striped motifs. The next part will discuss the second stage in fashion design. It will sample the model garment in order to develop slopers and pattern (dress styles) for individual garment.

2.12.2 Developing Model Form

The methods used by fashion designers are various. Brockman /1965/ observed that some fashion designers prefer to sketch dress styles for their assistants to produce the sketched garments, while some other fashion designers choose to work solely from the muslin (bait) which they drape on the model forms until the

form garment by the draping method is to tape the model form with the desired style (expected style).

Brockman /1968/ warned that the commercial dress form must be used instead of the home made model form which are unstandardised and inaccurate in comparison to commercial dress form that are having accurate measurement to life model (human being). Minott /1972/ in agreement, instructed that the standard size dress form is between 30cm to 35cm below the waist line. The dress form is slimer at the waist line more than the bustline area and the nipline while both the back-waist and the front skirt area are slightly flattened.

Jafre et al /1973/ stipulated that after tapping the model form with the style in view, let the muslin (baft) be draped on the model form until the effect of desired garment style is achieved. Bane /1972/ mentioned that the draped style should be taken down from the model form and transferred onto the slopers

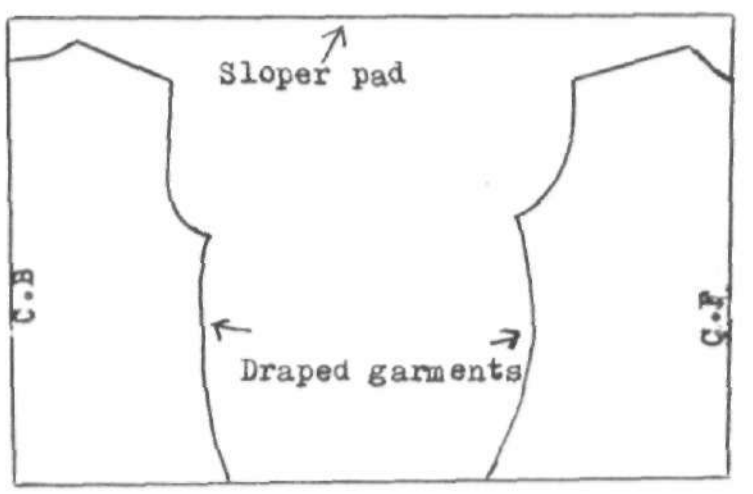


Fig. 2.6 Transfer of model draped garment on to sloper pad

2.12.3 Guides to Creating Slopers for Cold Season Garments

The slopers (block pattern) are instrument of fashion design from which other slopers may be developed. Kopp et al /1981/ indicated that the model draped muslin or baft garment pattern taken down from the dress form, should be transferred onto a paper slopers once necessary corrections were made. She stressed that the draped baft pattern should be carefully pressed prior to duplication on the slopers paper.

Brockman /1965/ mentioned that care must be taken not to distort the grainline of the baft when truing (straightening) muslin pattern in transferring the created pattern. Kopp et al /1981/ havethe same opinion and stressed that the duplication (slopers) from created pattern must be a precise copy of the draped baft pattern.

Jaffe et al /1973/ reported that the lengthwise (selvedge) and the crosswise grains on baft should be at right angles when placing the sloper papers on baft. Kopp et al /1981/ emphasised that right angles should be located on baft by pulling out one strand of yarn and then cutting on the line where the yarn has been removed on baft to straighten the top or crosswise grain. She instructed that muslin blockage must be examined for perfection of right angle by placing one thumb andone finger on the extreme right

of a squared cut piece of baft with one other thumb and one finger placed on the lowest edge left of the same baft cloth and pulling these two ends at the same time. She specified that if baft is on bais (not blocked) it will pull freely like elastic, but if baft is observed blocked (not pulling freely) from this pulling test, it should then be pressed and cut out.

The duplicated baft (muslin patterns) require darts to make them fit the figure. Kopp et al /1981/ speculated that to form dart on the back waistline requires a line drawn between cross marks and dotted points or lines. On the other hand, Jaffe et al /1973/ mentioned that to true the front waistline dart, requires to crease (alter or fold) dartline close to the center front from waistline to apex (upper most side seam from arm hole). There is need to alter at apex by closing and pinning dart towards centre front and under armseam. She speculated that french curve is used to true or straighten the waist line while other darts are traced in the same method used to true the front and the back shoulder darts.

When the two-darts fronts waist sloper is to be produced, the shoulder dart must be reduced in length. Kopp et al /1981/ detailed that to shorten shoulder darts in this case, requires a measurement of ½" (1,3cm) upwards and dotted from apex on dartline

closest to neckline. She suggested that a line be drawn from dotted point to dartline nearest to armhole for the new dart. She observed that to reduce length of waistline dart will require a measurement of 2" (1.3cm) from the top and from the centre down and the point dotted. Two dartlines are drawn from this dotted point to the waistline for the new dart creation. She proclaimed that the skirt waist darts are trued in the same manner from the top most waist point while the sleeve darts are trued at the elbow point in the same technique as the waistline dartlines.

It was indicated by Brockman /1965/ that most fashion designers will consider the fine arts approach when creating slopers, whereby the sloper design is viewed as a two dimensional composition from sketch level. She mentioned in this regard that some individuals can apprehend good garment composition more readily than others. She added that adequate care must be employed when constructing a garment at all time irrespective of good taste or not by the user.

Brockman /1965/ reported that an apparel has the ability of making the wearer appear more attractive. As elaborated by her, Dior reported that all great designers observe their duty of creating appealing plastic forms, which is adorned to assist the woman from nature. According to her, the average female

prefers to appear taller, slimmer than she really is. She advised that designers should use the "lines to fool the eye". In support of the women's age old desire to appear differently from what is the truth, Bigelow /1970/ added that from 1795-1819, women wore tights designed from flesh-colour of lisle yarn in order to achieve wonderful figure-revealing effect during the Greek and the Roman styles vogue. The button-down front garment is in fact the most popular design sloper style used to frame the figure gracefully. Brockman /1965/ pointed out that this method creates optical illusion of increased height. Other methods used to achieve the same effect include the close fitted, flared hourglass silhouette, unbelted shift contour and centre panel sloper but all these later groups of style combine the advantage of the button-down front sloper along with some disadvantages which make them less effective or inferior to the button-down front style which has no disadvantage combination.

Brockman /1965/ asserted that the most difficult to handle among the fine-arts principles is the element of good taste. She grouped good taste in four parts - the unity of design, economy in the design, centre of attraction and a means of demonstrating design ability. She elaborated that the aid to good taste is in the ability of the fashion designer to have all these elements utilized in sloper design

to be in compromise with each other. She stated that cold weather garments are grouped under sports wear costumes and therefore slopers must be designed with adequate ease. Dunn /1972/ in agreement reported that this is so because such garments are often worn over other undergarments to increase pliability. Ledbetter et al /1981/ in agreement added that accessories such as pockets are necessary when designing Akwete slopers for dipping in the hand to keep them warm from cold weather. She observed that neck collar is another accessory which must be designed along with Akwete slopers. She reported that collar performs decorative function while it keeps the neck area warm from cold weather. She added that hood may be designed along with Akwete slopers to protect the head from cold weather. Horn /1968/ reported that the "letting-Out process, in which a small piece of supportive materials (insulation) should be designed into a narrow diagonal shape to extend from the shoulder point to the heart point and sewn to the heart area to protect the heart from cold weather when designing Akwete sloper patterns. She added that insulation material should be designed in form of back yoke and sewn underneath the cold weather garment from the back shoulder point and reaching half way of the back waistline across the back of the Akwete sloppers to protect the back of the chest from cold weather. The next part will discuss the cutting and construction since it is the fourth stage in designing the cold weather garment from Akwete cloth.

2.13 Cutting and Fitting Cold Weather Apparel

2.13.1 Cutting

The fourth step in a new fashion (Akwete cold weather garment) designing process is cutting stage. Steps in cutting however, were enumerated by Ledbetter et al /1981/ to compose of laying out and matching Akwete motifs, examination of Akwete cloth naps (unguarded motifs), position of Akwete fabric design and laying out cloth for cutting (placement of pattern pieces). She mentioned that Akwete cloth should be folded with the right side combined together (in the inside) and the grain line parallel while the cloth is being smoothened on a flat table. She advised that when table is unable to accomodate the whole Akwete cloth length, it should be folded or rolled at one edge and placed flat on the chair or its equivalent. She exceptionalized knitted or stretch fabric as not suitable for chair placement since this may still strain such cloth and therefore stretching the fabric. She proceeded to emphasise that inevitable nap (repeat in the weave) on Akwete cloth be identified or any pattern or structural texture which may require laying such pieces in the same direction.

Ledbetter et al /1981/ found that the areas wished to be emphasised by the pattern is cut from the most obvious motif section of the Akwete cloth

design. She exemplified on garment design emphasis to be desired sometimes at the lower edges of the jacket, trousers, skirt, above the bustline or shoulderline. She added that Akwete plaids and stripes should be cut in either single or double layers of cloth. She observed that double cutting necessitates pinning of the Akwete cloth before the placement of slopers pattern pieces. She realises that plaid cutting requires pinning only at the intersection of every major design on the cloth. The pattern pieces according to her, should be placed on the pinned cloth as predetermined (areas of emphasis). She suggested that only two pins are required for the pinning of each paper pattern piece to the cloth before cutting. She singled out geometrical pattern cloth which requiresmore number of pins and expressed that note must be taken in pinning and cutting those areas where the buttons and button holes fall on the Akwete motif repeats. She added that a slight shifting of the paper pattern may be needed to have such motifs at desired repeats. Methods of cutting collars are numerous - it may be cut on bias, on the lengthwise or on crosswise grain.

After the placement of pattern pieces, the shears (scissors:) are held perpendicular to the table when cutting out the Akwete cloth. Ledbetter et al /1981/ lends the view that appropriate care must be taken to cut Akwete cloth edges evenly. She stressed that

cutting should be done in regular strokes and on the grain of cloth while keeping the hand straight. She recommended that pieces can then be sewn (constructed) together after completing the cutting of all paper pattern pieces.

2.13.2 Construction of Cold Weather Garment

Construction of Akwete cold weather garment is achieved by joining together all seamlines and edges, created in the process of cutting out of paper patterns on Akwete cloth to arrive at predetermined shapes or garment styles. It was accepted by Ledbetter et al /1981/ who stated that the seam joining types in a garment construction are of two groups. She mentioned that the exposed seams will join main parts of garment with the edges revealed while the enclosed seams will remain hidden as in collar edges and facings methods. She explained that criteria for judging good stitching seams comprises stitching which extend to the seam ends, and the length of stitch which must be compatible with the texture of cloth and maintained at consistent length. She stressed that seam must be kept levelled with the side equal. The Akwete garment stitched lines must be smooth without pulls from the sewing thread stitch. According to her, guideline for stitching seams involves stitching with the cloth grainline in the

same direction. She advised that the thread ends should not be fastened (tied) when Akwete cloth seams are to be attached to another seamline.

It was reported by Leabetter et al /1981/ that tailoring is that process by which the garment design lines are defined and the garment is given a permanent shape and structure. She then grouped tailoring into two types and . stated that the traditional tailored garments were designed by local professional tailors who stitched mostly by hand or by slow moving hand operated machines. She proclaimed that modern technology is responsible for the development of tailoring into mass production and the industrial tailoring system. Horn /1968/ who agreed to this, remarked that many industrial machines operate at speeds of more than 5,000 stitches per minute.

It was reported by Ledbetter et al /1981/ that there exists two types of tailored garments. She specified that the Akwete garment (from traditional cloth) fall into the hard-tailored apparel and produced from a stiff cloth having crisp, formed motif details and possible greatly built-in shape often connected with male suits and coats or used in female wear as in the case of female business wear to achieve masculine look. She added that the soft-tailored garmentsare those constructed in soft (light weight)

cloth with crisp but not rigid handle. This is viewed as totally feminine except when used to construct men's wear - adire and tie-dye fall to this quality garment construction.

It was stipulated by Greenwood et al /1978/ that all new fashion tailored apparel, Akwete cold weather garment inclusive would undergo three stages: introduction stage which is testing of style, acceptance stage, the mass produced type and a regression stage, the latter being now out-dated. She concluded that this fashion-cycle concept will normally affect every line of fashion in order to pave way for fashion change cycle to take place. This point of view was favoured by Jarnow et al /1981/ who confirmed that the Akwete garment construction change will not even be determined by the fashion designers but by the users of the fashion. Rosencranz /1972/ is of the same opinion and indicated that an American fashion designer Ronald Amey reported that every fashion is for the moment with an expectation of tomorrow's influence. It was confirmed by this American designer that the basic method for handling construction remains the same even with the tomorrow fashion influence.

Ledbetter et al /1981/ stated that the Akwete garment collar, pockets, lapels and button holes should be defined by maintaining their sharp edges during construction while all straight lines of the

Akwete garment must be smoothened or adequately straightened .

2.14 Method of Applying Supportive Material (Insulation) onto Cold Season Garment

It was indicated earlier at slopers designing stage that some areas on the Akwete cold weather garment will require insulation to make the fashion protective from cold weather. Nevertheless, traditional tailoring has for long applied hand cloth interfacing material by hand and by the pad stitching method.

Ledbetter et al /1981/ reported that interfacing supportive material has been improved by modern tailoring technology which made their use more advantageous than in the past. She stipulated that the interfacing performs the function of controlling the amount of roll on the garment parts (collars and lapel rolls back yoke) while the thickness of this pad enhances the firmness and quality of the garment to protect from cold weather.

Jarnow et al /1981/ has the impression and pointed out that Schiaparelli was the first to adopt padding suit shoulder fashion designing. She added that Schiaparelli derived her inspiration of padding from the Guard man's uniform subtle tailoring in furs material in 1937. Ledbetter, suggested that

the machine pad method is recommended for use by the less skilled (contemporary designer) hand stitching fashion designer. She believes that the machine pad stitching method will enable the contemporary designer to speed-up padding with precision comparatively. She testified that adequate care must be taken when padding the lapel to minimize stitching appearing on the underside of the lapel during the stitching of the under layer of Akwete cloth. She suggested that stitching of seam should extend to the seam ends, and the length of stitch which must be regulated to match with the texture of Akwete cloth. Eicher /1976/ asserted that the Akwete cloth falls precisely into the geometric abstract motifs cloths. Jarnow et al /1981/ expressed that trimming came into existence in 1930s and was well used to demarcate the strong effect (monotony) of geometric abstract motif cloth used in designed garments.

2.15 Trimmings Usage on the Apparel

According to Brockman /1965/ trimming is viewed as those fashion design pieces used to distinguish an accessory from the basic garment parts, such as the waist, skirt and sleeve. She differentiated the basic garment from accessories and proclaimed that trimming is composed of collars, cuffs, belts, neck ties, bow and buttons. She found that trimming further includes all forms of garment decorations.

She accounted for the difference in trimming and states that "sport trimmings" draw attention to the centre of interest while "trimmings" in general, if used on Akwete garment will emphasise garment style and structural pattern of the cloth.

It was specified by Brockman /1965/ that bold trimmings should be used on simple designed fashion garment (basic sheath) while the hourglass silhouettee and other sophisticated dress designs require scaled down (few) trimmings. In supporting the point, Jarnow et al /1981/ expressed that beautiful collar can make a great difference and exemplified with simple styles designed by designer Schiaparelli which were enhanced with extremely large collars which extended to the waistline in mid-decade.

Brockman /1965/ reported that cuffs trimmings are means used to soften the sleeves. She stressed that cuffs become necessity when sleeves are gathered at the bottom edge. She observed that some sleeve cuffs are even in the form of band. She further viewed belts as part of trimming accessory. She indicated that leather belts may be more expensive but they are more beautiful and extensively durable. She recommended that expensive garment should be worn with leather belt if it requires belting. She enumerated that other belts include - belts with bow buckles, cords, self-fabric belt ties, bands that initiate

belts,bow alone, bows in draped and laced effects combination, bows with draped effect alone and bow with laced effect alone.

Brockman /1965/ established that the fabric contour, structure, colour and trimming must be in compromise with each other. She exemplified with over colourful trimming used in an unequal amount on apparel as unsuitable. Bigelow /1970/ adhering to the view mentioned that the 1800-1815 French garment known as'Napoleon' was rich with trimmings and yet well coordinated.

Button trimming may be used to emphasise centre of interest. Brockman /1965/ mentioned that buttons must be properly organized because a set of buttons attached too low by placing one button around the neckline andanother button placed down below the knee may create problem for the eye to bridge the gap between buttons and the neckline.

According to Kopp et al /1981/, collar trimmings are functional and decorative since they can frame the face gracefully. She pointed out that collars may be finished separately (detachable) or attached to the Akwete garment permanently. She grouped fashion collars into three categories - the separate collar of 'Peter Pan', collar developed in part or whole of the 'Shawl collar' and the two-piece notched collar of 'lapel'. She acknowledged that the origin of all

collars belong to either the flat fitting collar with a concave shape, the roll having a convex shape or the stand-up collar with straight line. She observed that accessories such as jewelry, scarf, or pine are used to adorn neckline when collars are not present on garment.

According to Kopp et al /1981/ pockets trimmings are developed from a defined small quantity of cloth which are attached to garment with opening at the top or side ends. She explained that pockets are for garment embelishment while it is also purposeful as the name denotes (arm inset). She believes that pockets are three types - the surface pockets, the seam pockets and the wallet pockets. She specified that apart from cold weather garments, pockets are used on varieties of clothing such as sports waar, coats and suit and dresses.

It was stipulated by Kopp et al /1981/ that buttonhole trimming is a predertermined demarcation on garment to facilitate button fastening. She indicated that buttonholes are made on the overlap of apparel and placed right over left for the female apparel while the placement of overlap is left over right for the male garment. She noticed that buttonholes are either arranged in vertical shape, horizontal or diagonal form.

Kopp et al /1981/ pointed out that button trimming may be sewn to any sectional parts of garments. She elaborated that the shapes of button ranges from flat, half-ball to full-ball. Attention was drawn to the fact that the square, rectangular, triangular and log button contours are the more recent development in button shapes. She found that buttons have dual to four holes, or a metal string, fabric cord or plastic instrument providing means of attaching them to garments. Bane /1972/ consented to the usefulness of button trimming but viewed that button closing consumes a bit more cloth than the zipper method of closing a garment. She added that each piece of trimming must be ironed as they are being introduced to garment construction. She observed that the final pressing of every part of the garment is necessary.

2.16 Pressing the Garment

It was reported by Ledbetter et al /1981/ that pressing is the final step in garment production and one of the most tasking aspects of tailoring. She commented that good pressing takes equal time as the whole period employed on construction (machine work). She advised that the heat requirement by the Akwete cloth should be determined by testing a small piece of the cloth.

Ledbetter et al /1981/ pointed out that there exists a difference between ironing and pressing. She explained that ironing applies pressure to cloth

or garment to eliminate wrinkles after washing while she acknowledged that pressing involves the smoothening and flattening of garment folded areas such as helmlines, shoulder points, and sideseam resulting from machine work. She specified that Akwete heavy cloth necessitates the use of heavier pressure for its pressing. She added that pressing should be done by directly lowering and raising the iron and not by lowering and smoothening the iron downwards and upwards, to avoid stretching the garment. She stressed that pressing be done with the grain of garment in lengthwise direction - pressing from the wider part to the narrower part of Akwete garment. She concluded that every new fashion on production stage should be adequately pressed before using the garment, be it traditional or industrial woven fabric.

Ledbetter et al /1981/ mentioned that the seamlines should be pressed in the direction of stitching while the dart seams should be pressed prior to the attachment with another seamline of stitching. She found that some amount of wetness is usually left behind when pressing with steam iron, therefore the material should be allowed to dry before the final pressing is done.

Ledbetter, asserted that basting be pressed before removal of basting threads and the garment be repressed after taking off the basting threads. She recommended that pressing is preferrably done on the back side of the garment in pressing process to avoid shine. A yard of fabric should be placed over the pressed garment until steam is no longer visible. She stressed that other required pressing tools are padded ironing board, sleeve or seam roll, pressing ham, point presser, sleeve board, tailor's board, seam stick and press cloths. She confirmed that the garment is ready for use after the pressing process.

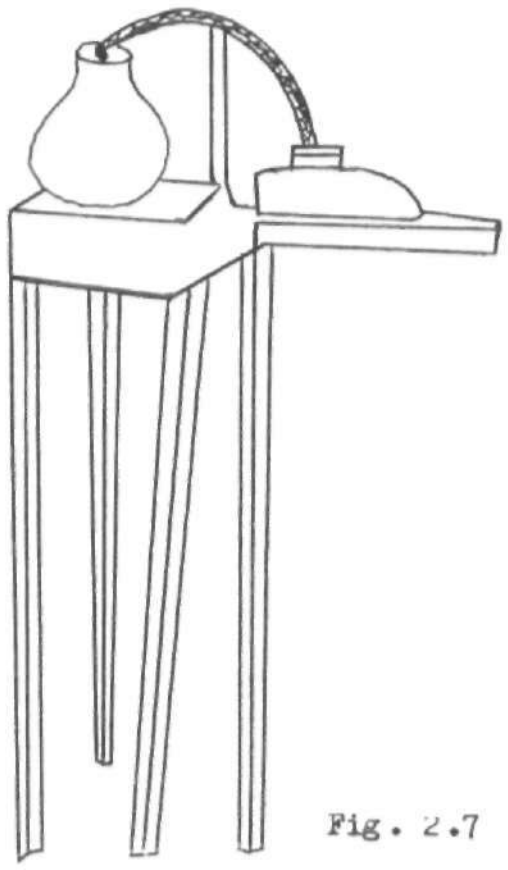


Fig. 2.7 Steam Iron

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CHAPTER III

PROCEDURES FOR COLLECTION AND TREATMENT OF DATA

3.1 Introduction

Procedures for collection and treatment of data are analysed in this Chapter. The population, methods for collection of data and survey instrument are discussed. The study covers an exploratory survey of traditional and contemporary Akwete cloth weaving. The loom type, tools, weave motif patterns and resulting fabrics, within the need of cold weather garment construction, are also covered.

The intention was to give visual and practical information. The study selected four Akwete weave samplers. According to wright /1969/ colour has a relationship to warmth provided by a fabric. He mentioned that coloured surface are warmer than uncoloured surface. The fabrics selected are Ikaki Akwete cloth white background colour, Volvo cloth, red colour, fig cloth, yellow and nnunu cloth in pink background. The selected weave samplers have various motif repeats.

3.2 Population of the Study

Traditional woven Akwete cloth from Akwete Ndoki region made up the population for the study. The selected samples of the population include:

(a) Ikaki Akwete cloth

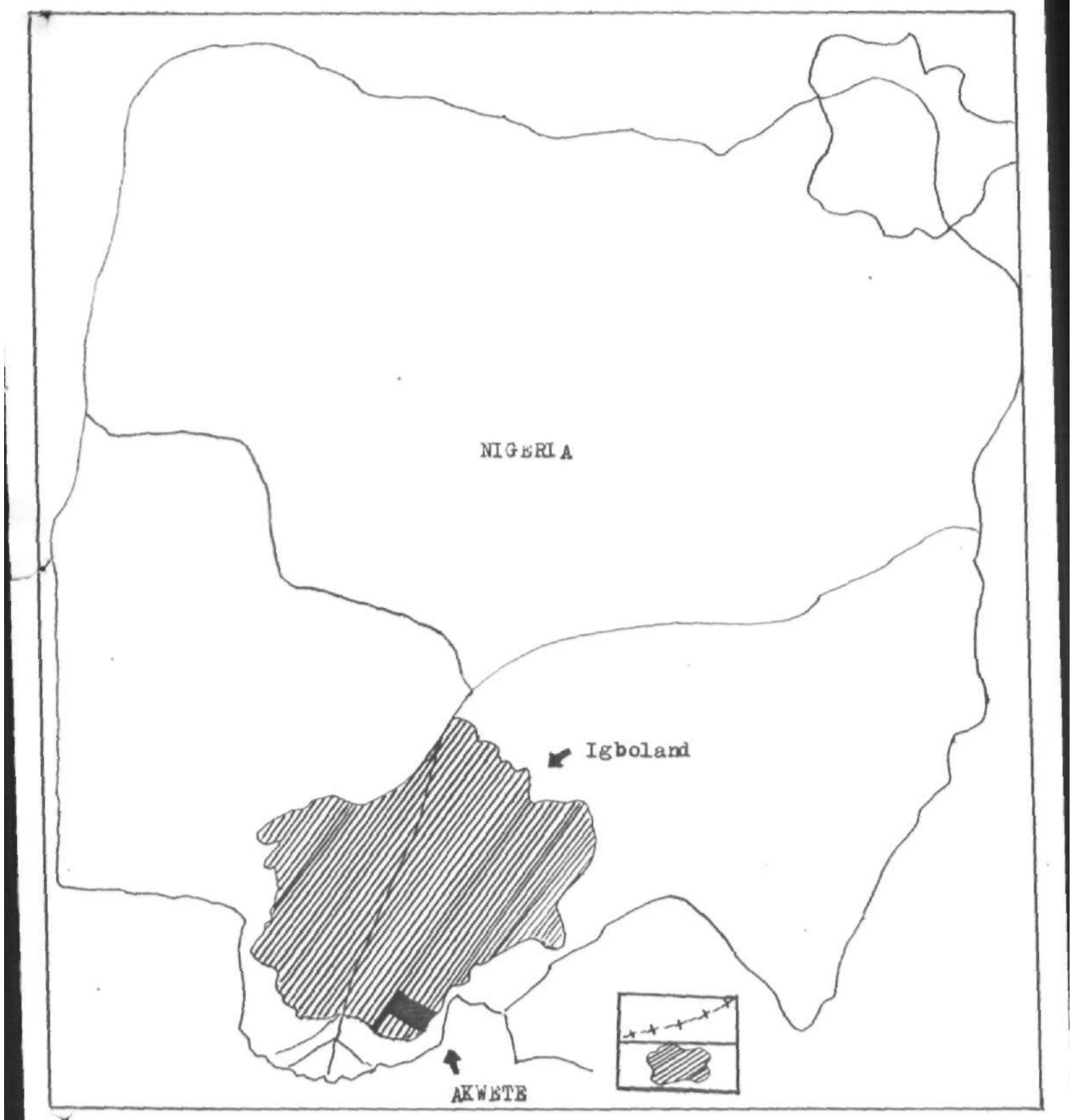
(b) Volvo Akwete cloth

(c) Fig Akwete cloth

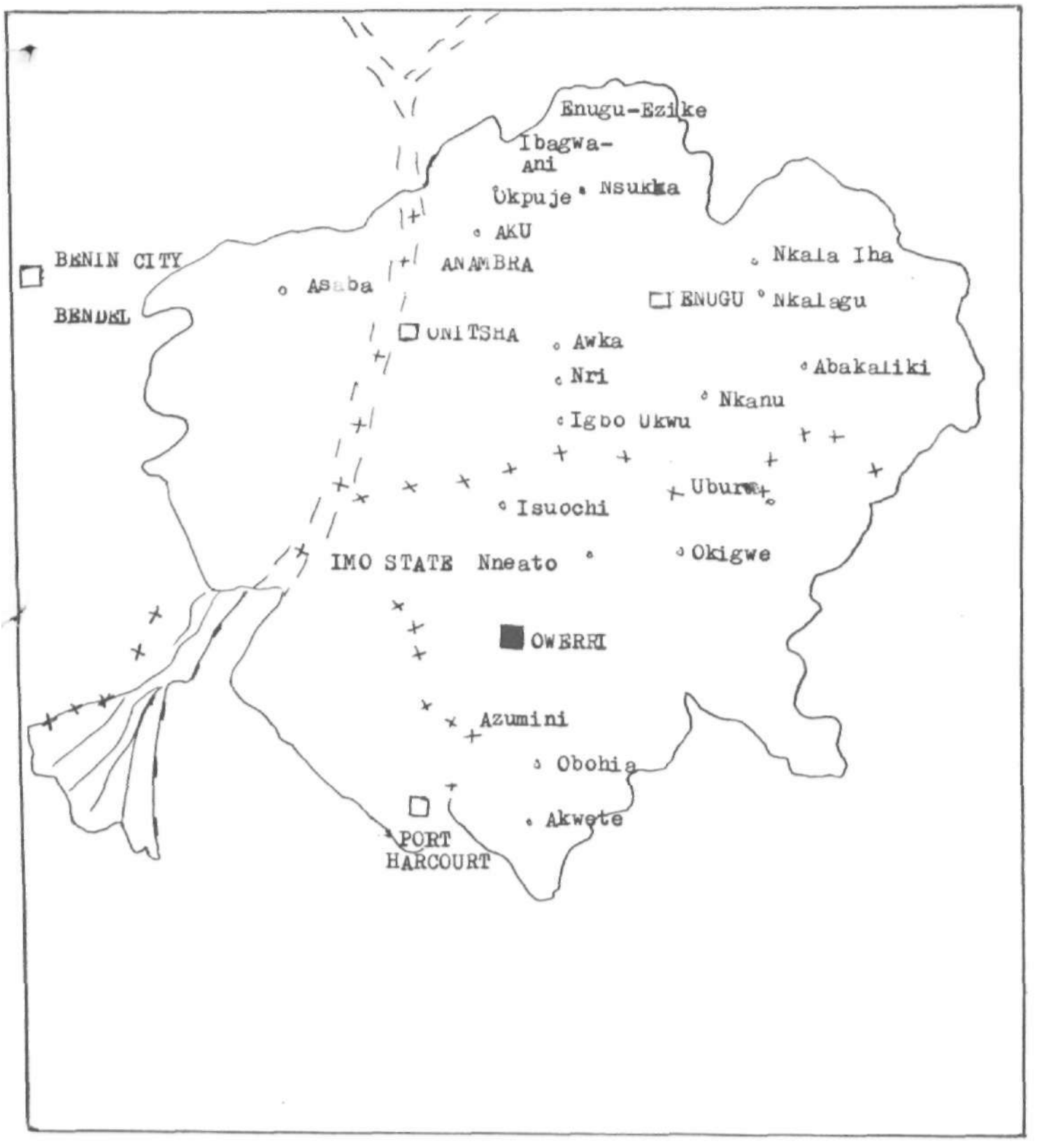
(d) Nnunu Akwete cloth

All the fabrics are typical Akwete woven fabrics. These were produced by the Akwete specialized (full time) weavers. The fabrics were selected from the Akwete weaving centre or show room of Akwete town hall in Ndoki region. The selection of the location and population was determined by the pilot study.

Map of Nigeria showing flag sign
representing Akwete town



Map of Igboland showing capital state of
Akwete cloth producing area



3.3 Survey Method

The questionnaire was designed after the proposal stage and two trips were made to the Akwete weaving centre and to Akwete Technical Secondary School in Ndoki region, Imo State. The purpose of the trips to Akwete town was to ascertain that the specialized (full time) weavers and the part time students weavers and others will be willing to respond to the questionnaire. Arrangement for data collection was then initiated, because responses from the trips were favourable.

The instrument (Appendix A1) was prepared based on the population and research question. The ultimate instrument was drawn after adequate scrutiny by the researchers' supervisory committee. The instrument contained fifty four items. Since the Akwete craft is highly secretive, it was not possible to mail the questionnaire to the respondents. The instrument was then taken down to Akwete town in person.

There was a little need for persuasion of the respondents even though, permission was previously received. A good return was obtained since sixty one out of the One hundred questionnaire sampled out were sent back to be analysed.

Some of the specialized weavers refused to give out certain information for fear of exposing

the weaving tradition. The field work was completed without much hazard.

3.3.1 Procedure

A questionnaire based on various aspects of Akwete cloth weaving was designed and administered to respondents to collect information. The developed measurement instrument was sampled to Akwete cloth weavers for data collection. Majority of the respondents had basic education while the few with no formal education had the questionnaire statement translated to Igbo from English language.

The researcher's assistance, and the students of Akwete Technical School helped this group to complete the questionnaires.

The questionnaire design was in two categories - namely under objective option and a one to five word essay option. This aspect was meant for those specialised production areas to allow the respondents some degree of freedom while it enabled the researcher collect data that may not have been obtained with restricted type of questionnaire alone.

The questionnaires printed and distributed to prospective target population amounted to one hundred, but sixty one were returned to be analysed.

3.3.2 Statistical Method and Data Treatment

Every statement is followed by two to five options to be selected from by the respondents. The responses are then tabulated in raw numerical scores expressing the total responses to each item while these raw numericals are converted into percentage.

These percentile for a particular option of a statement is simplified by determining the sum of responses for that option, divided by the total number of respondents for that statement and results multiplied by one hundred.

3.3.3 Operational Areas

This study is aimed at designing cold weather garment from Akwete cloth. The study is not intended to discourage previous users from using the cloth as traditional wrappers.

In the practical work, various garment styles and weave patterns were drafted, based on traditional styles.

3.4 Fashion

The traditional Nigerian fashion was voluminous in the past. Nigerian contemporary apparel designs are trimmed down to size the wearer. There exists limited number of exaggerations of garment styles. A few available elaborations of garment styles are for definite occasions such as ceremonies, Sunday and Friday prayers.

The demarcation in tribal garment styles are becoming defunct. 'Babanriga' for example is worn by almost every tribe in the Nigerian contemporary fashion. Nevertheless there exists an attempt to identify through clothing and style within individual tribe.

3.5 Preparation of Muslin

Muslin (bart) fabric was prepared before draping the model form.

(a) One single yarn was removed from selvedge to straighten fabric edge.

(b) right angle was checked for perfection

(c) bart fabric was pressed

(d) the model form was then draped with the gbarie silhouette and the garment component parts namely - the bodice front and back, sleeve, the hood and the gbarie insert.

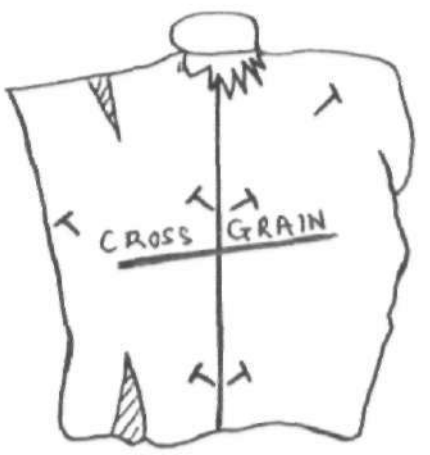
3.6. Drapping the Model Form

Method of creating slopper was earlier discussed in this study. Nonetheless, sloper is an instrument

used in creating clothes. The sloper is developed using standard, individual measurement or model form.

The model form used in draping the garment slopers for this study was a size 8 model. The draped garment was cross checked against the life model (wearer) size. Observation showed that the life model was a size 10 person. The size 8 draped garment was increased to a size 10 to match with the life model figure size. The created slopers was used to develop patterns of cold weather dress style in this study.

1. Pin baft on dress form from centre front and centre back.
   Pin at the following intersections:
   a) the base of the neck
   b) chest area
   c) waistline point



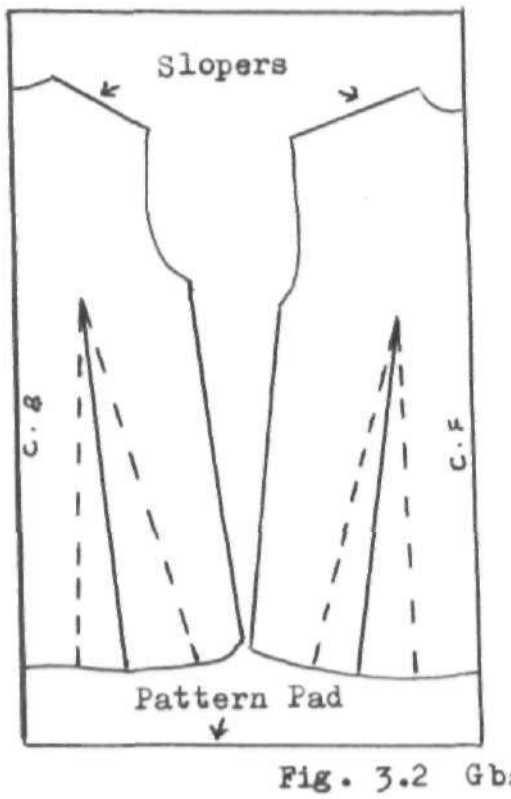
2. Smooth baft from centre towards arm hole and shoulder, but maintain baft firmly around the neckline. Clip the neckline seam to fit.

Fig. 3.1 Draping the model form

3.7 Developing Patterns from Model Form Draped Garment

The silhouette pattern for the cold weather garment was developed through draping method. The garment is a unisex apparel to be worn by male or female and no dart was added for shape and fit. The style was inspired from the Yoruba traditional 'gbarie' apparel, and was originally used as partial ceremonial dancing apparel, designed in large size to allow its floating during dancing movement and worn by the men.

The gbarie voluminuous style was trimmed down in its adaptation to this study and in line with the Nigeria contempoarary fashion for the convenience of the wearer.



1. Increase size in the following parts:
   a) Bust area 1"
   b) Waist 1"
   c) Hip 2"
   d) Shoulder ½"
   e) Helmline 2

2. a) Place transparent paper over dotted line and trace the square insert.
   b) Cut the garment pattern over the solid line.
   c) Proceed to use the created patterns to cut fabric for construction.

Fig. 3.2 Gbarie Pattern making

3.8 Weave Sampler

The motifs selected from the weave sampler included the 'atu' motif (Plate 6) , 'ije ajwo' (Plate 7), 'ikaki' (Plate 8), 'bow tie' (Plate 9), 'butter fly' (Plate 10) and nnunu (Plate 11). The ikaki, ije ajwo and atu motifs were reproduced in two weave draft pattern repeats of each, while the bow tie motif was reproduced in three weave draft pattern repeats. The nnunu and butter fly are reproduced in single repeats.

These motifs were drawn on the garment with colours applied without strictly following the number of yarn counts (simulation method) on the physical woven fabric samplers. The weave draft pattern followed the exact yarn count on the sampler piece. These motifs were further applied to specific areas of the sketched garments on the fashion models.

3.9 Fashion Modeling Method

The fashion model sketches were stylized based on literature that fashion models must be slim and its extent depend on the period of modeling. Model structure was found to vary from muscular (stiff) to slender (soft) body composition.

The male model (Plate 12 is wearing a unisex Akwete cold weather garment being the practical work from this study. The fabric design is popularly known as 'volvo cloth'. The model is showing the back view of the Akwete cold weather garment, inspired from the Yoruba traditional gbarie style and trimmed down to Nigerian contemporary fashion trend. A hood was added to protect the head from cold weather. Insulation materialswere added to the chest and heart areas to protect these portions from cold weather.

Fabric motifs are applied to predetermined areas to keep the portion of the body warm with the additional thickness provided by the design motifs over the plain ground. The abstract motifs are arranged to direct the eye movement upward to emphasise the height of the wearer. The motif arrangement makes the model to appear slimmer due to eye illusion created by vertical motifs. The female model (Plate13 is wearing a stylized contemporary wrapper - blouse style. The fabric is red volvo in vertical motif arrangement. The original blouse has been altered to functional cold weather garment.

The volvo fabric is red in reference to scientific proof from literature that Africans have preference for bright colours. Red on the other hand is a coloured surface fabric and can absorb substantial amount of radiation that falls on it, while it reflects the rest.

Model (Plate 14) is modeling a white background cold weather garment designed from Akwete fabric. The style was inspired from traditional African boo-boo silhouette. Basic boo-boo silhouette was altered to fit the Nigerian contemporary fashion with collar and adjustable string sleeve regulator introduced to enable the cold weather garment sleeve to remain extended to the wrist or pulled up as desired by the wearer.

The provision of collar and extended sleeve are to protect these areas from cold weather. The heart and the chest areas were insulated with supportive material to give additional warmth to these areas. The contemporary boo-boo can be worn over a wrapper or trousers to keep the legs warmer.

White ikaki background cloth is an uncoloured surface. White surface reflects radiation or light, while it absorbs none and are less warm than coloured surface. White colour was added to this study for the purpose of wider variety, because certain professional individuals need white colour such as hospital workers. Nevertheless, the ikaki fabric has varieties of surface structural design in black, red and metallic coloured yarns floated over the fabric surface.

Model (plate 15) is wearing Akwete cold weather garment designed from bow tie Akwete motif fabric. Inspiration for the garment was a combination of traditional Igbo chieftaincy style and the contemporary Nigerian suit silhouette. The model for this garment is a middle aged man. The apparel foundation colour is yellow background. Motifs for the garment are fewer than most of the samples selected for this study and more randomly distributed. Yellow is a coloured surface and therefore expected to be warmer than white surface.

3.10 Nigerian Traditional Garment Styles

The Nigerian contemporary fashion are diffused. Nevertheless, there still exists some element of variations in garment styles, depending on the geographic location of a group. The popular garment styles for the Eastern Nigerian male include the chieftaincy garment style and the contemporary Nigerian suit worn with its trousers (Diagrams 1 and 2), the female makes use of wrapper worn with blouse (Diagram 3).

The Northern male adorn himself in long or knee length tunic and'babanriga'worn over trousers (Diagrams 4and 5), and the female group wear traditional gown worn over the wrapper (Diagram 6).

A familiar garment style of the western male include sideless eight gore tunic and'agbada'worn over matching trousers while the female wear'buba'and wrapper. (Diagram 7) (Diagram 8).

It is not difficult to find these geographic dress styles being worn by people of other geographic areas in Nigeria today, because the Nigerian traditional fashion has paved the way for Nigerian contemporary fashion. See P. 126.

3.11 Laboratory Tests

Since this study is primarily concerned with the design of cold weather garment from Akwete cloth, it is pertinent that the traditional Akwete cloth be subjected to laboratory tests to examine its suitability scientifically.

3.11.1 Materials and Methods

3.11.2 Materials

Four fabrics assigned A, B, C. and D were procured from Akwete Ndoki in Ukwa Local Government Area of Imo State, Nigeria. In addition to these, seven Akwete weaving yarns were made available and designated A, B, C, D, E, F, and G. The fabrics are:

Ikaki (A)

Volvo (B)

Fig (C)

Nnunu (D)

The following are the weaving yarns:

Different coloured yarns, sized and dyed (A, B, and C).

Undyed unsized yarns (D)

Dyed unsized yarns (E)

Dyed rayon yarn with shine (F)

Metallic yarn with glittery effect (G)

All are 100% cotton fabric woven on women's vertical loom. Fabrics A, B, C, and D were sized both in the warp and weft. Fabrics A, C, and D were produced from factory spun yarn in the textile mills in Nigeria.

Fabrics A, C, and D were fast treated (Commerce yarns) by yarn processing companies in Aba, Nigeria. Fabric B is woven from locally spun yarn and was not fast treated.

Nigerian Industrial spun and woven fabrics were also tested for the purpose of contrast and assigned A and B.

3.11.3 Methods

(i) Yarn Specifications

The yarns used to weave these fabrics could not be produced, thus yarn specimens were removed from the warp and the weft directions of the fabrics respectively.

(ii) Yarn Count

The counts of the yarns were determined according to the specification in B.S. 2865: 1972. Calculated

using B.S. 2865 equation: $= \frac{64.8}{\text{Mass of one lea in grams.}}$

(iii) Yarn Sizing

All the yarns were tested for the presence of starch using iodine solution.

(iv) Physical Properties of Fabrics

The fabrics were tested for air permeability, and abrasion resistance.

(a) Air permeability

Air permeability of fabric was determined as prescribed by B.S. Handbook 11:1974.

(b) Abrasion Resistance

The wearing strength were determined according to the procedure outlined in B.S. 11:1974.

(v) Fastness Properties

The fabrics were tested for light fastness, migration, ISO 2, ISO 3 and ISO 4 washing tests.

(a) Light Fastness

The readings were taken according to the prescribed measure specified by Max 14: 1979.

(b) Migration

The fabrics were tested for dye migration as outlined in B.S. Handout, 1988.

(c) ISO 2, 3 and 4 Washing Tests

The ISO 2, 3, and 4 tests were carried out as recommended in the standard methods for the Determination of Colour Fastness of Textiles, 3rd Edition by the Society of Dyers and Colourists, Bradford England.

3.12 Treatment of Data

Oral information collected through interview and observation from the field were tabulated. Data collected from responses were classified according to the particular option of the question and tabulated. Information from literature and practical work were confirmed and analysed. Data findings are presented in the next Chapter.

Air permeability and Abrasion Resistances Machines used to determine the Akwete cloth suitability for the purpose of this study.





Plates 1,2,3, and 4: Pilot Study pictures showing present method of protection from cold weather in and around Ahmadu Bello University Zaria, Nigeria.



Plate 5: The Model Form Wearing Akwete Cold Weather garment, being the practical work from this study.







Plates 6,7,8,9,10, and 11: The Weave Akwete Sampler and Reproductions of motifs in Weave draft Pattern Repeats.



Plates 12, 13, 14, and 15: Various Styles of Akwete Cold Weather Garments



Nigerian Traditional Garments: Eastern Garment Styles

Diagram 1

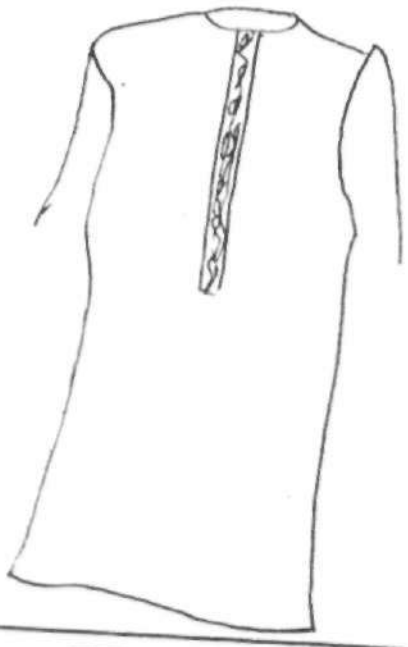
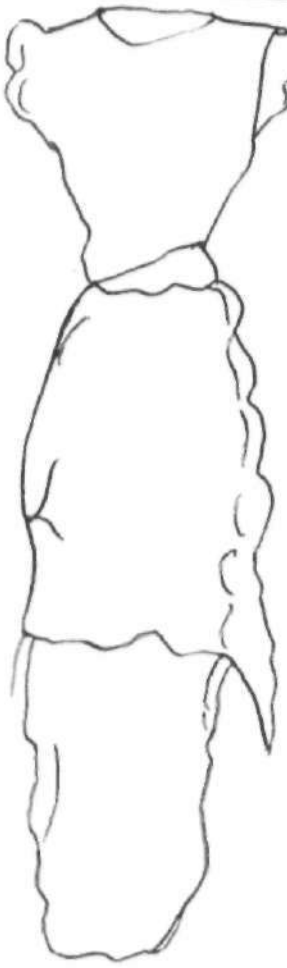


Diagram 2



Diagram 3



Northern Garment Styles:

Diagram 4

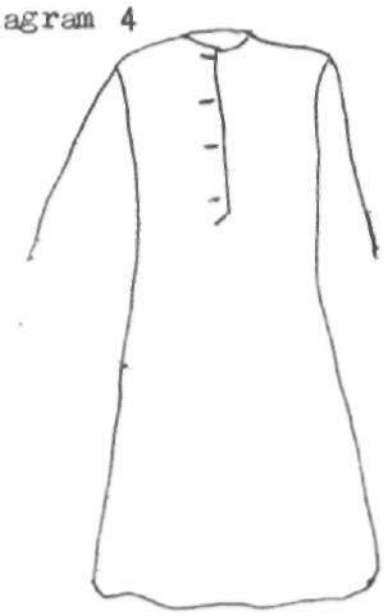


Diagram 5

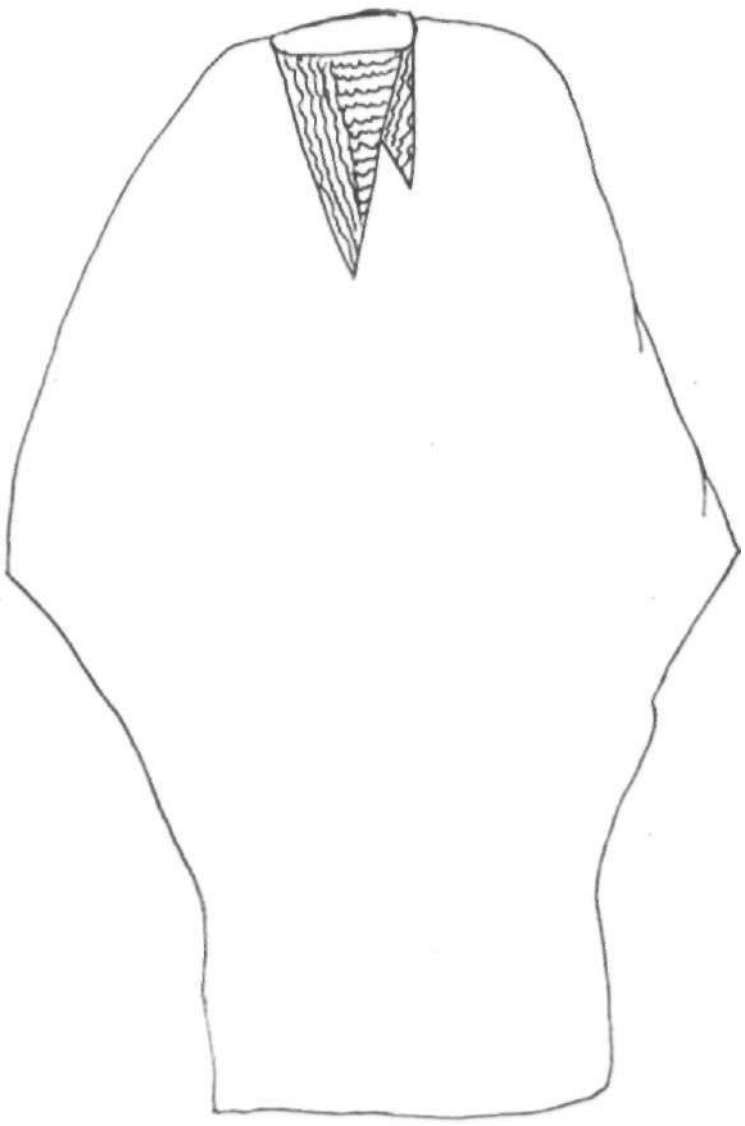


Diagram 6

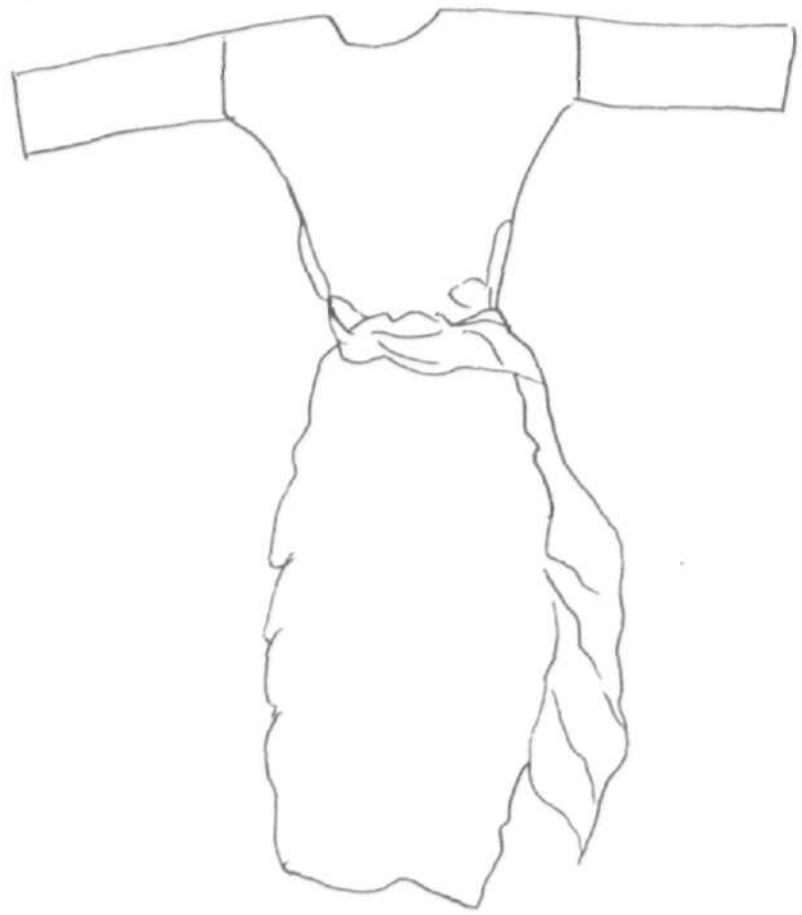


Western Garment Styles

Diagram 7



Diagram 8



Nigerian Contemporary Fashion Trend: Typical Lagos Out-look



**All designs by Piscean Fashion House.



— All designs courtesy of Dakova. David Kolawole

Fig. 3.3

CHAPTER REFERENCES

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CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

4.1 Analysis of Data Collected on Questionnaire

The designed questionnaire used in this study is presented in Appendix A1. Analysis from the questionnaire responses are outlined in the Chapter. The responses discussed were provided by experienced full time and part time Akwete cloth weavers of Ndoki region, Imo State. Findings are shown in Tables and discussions respectively. Other component parts of this chapter include findings from the field work, laboratory experiments and summary of the chapter.

From the received questionnaires, 58 /95%/ of the respondents were Igbos and from Akwete town while 3/5%/ of the respondents were Igbo people but not from Akwete town.

All the people, 61 /100%/ who responded were women. In fact men do not weave and this is culturally accepted in Akwete. In Yoruba land, men (are said to) weave the Aso-Oke cloth as confirmed by Lamb et al /1980/.

Most of the respondents were between the ages of 12-19, actually, 47/77%/ of the respondents were in this age group, 8/13%/ women who respondent were in

the 20-40 age range, while 10% of the respondents amounting to 6 respondents have their ages between 41-70 years and above.

Out of 61 respondents 27/44%/ had basic education, that is the percentage that went through primary education. 26 /42%/ went to secondary school. Some 6/10%/ of the respondents had post secondary education. The remaining 4% or 4 of the respondents had no formal education at all.

49/80%/ of those who responded to the questionnaire were not married, they were single females. The other 20% of them were married, none were divorced.

All the respondents were weavers of Akwete cloths.

43/70%/ respondents of all those who submitted the completed questionnaires were part time weavers of Akwete cloth. 30% /18 respondents/ were full time weavers. None of them were trainees.

Most of the respondents - 53/87%/ had their years of weaving experience varied from 5, 10, 14, years. 6/10%/ appeared to have woven for 15 to 24 years while/3%/ 2 respondents have been weaving since 25 to 34 years and above.

Majority of the respondents 44/72%/ work alone while 17/28%/ of the 61 who responded had apprentice working with them. Nearly (equal to) the total percentage of the number of full time weavers are observed to have apprentice weavers working with them and this is worth taking note of.

46/75%/ of those who returned the questionnaires inherited the weaving tradition. The rest, that is 15/25%/ just learned the craft out of interest.

Majority of the respondents 42/69%/, who inherited the tradition had the training of the craft from parents and relatives and the remaining 19/31%/ learned the Akwete weaving from friends. An interview while in the field indicated that most of those who learned the weaving were non Akwete indigenes. Many have become part of this community as a result of marriage or visiting the Akwete area for an extended period and moreover they have just learned the craft as a part time money making occupation.

It was responded to by 23/38%/ of the respondents that they have inherited their motifs and 21/34%/ indicated that they purchased their motifs from the market.

Responses to the question of types of motifs produced indicated that 50/82%/ of the respondents produced traditional motifs while 7/11%/ manufacture conventional motifs and 4/7%/ wove both traditional and conventional motifs.

Table 1: Response on Type of Loom Equipment used in weaving Akwete Cloth.

Statement	Frequency	Percentage (%)
What types of material do you use?		
Loom /Nkwe/	14	23.0
Yarn	14	23.0
Otiti	9	14.0
Ekike	8	13.0
Agba	3	5.0
Paapaa	3	5.0
Dyes	3	5.0
Eriri	2	3.0
Ahia	2	3.0
Nkwechite	1	2.0
Nkpo	1	2.0
We use locally made materials	1	2.0
Total	61	100

By Table 1, the percentage of respondents who believe that the Loom /Nkwe/ is necessary in the weaving of Akwete cloth is 14/23%/ of the craftswomen. Other 14/23%/ said yarn is also used in this weaving. 9/14%/ indicated a requirement for Otiti material. 8/13%/ observed that ekike is used, 3/5%/ of the respondents showed that Agba material is one of the required materials, 3/5%/ said that they also used paapaa material. Dye is said by 3/5%/ respondents to be utilized during weaving activity. 2/3%/ of the respondents stated that the Eriri material is used for the weaving of Akwete cloth. The other 2/3%/ out of the 61 respondents indicated that Ahia is one of the useful Akwete weaving materials. It was shown by 1/2%/ respondent that the Nkwechite is another needed material, while 1/2%/ believe that Nkpo is one other material and 1/2%/ of the returned questionnaires simply indicated that they use locally made materials. It was assumed that this last group of respondents may not have been clear with the required information needed from them.

Table 2 : Responses on Type of Loom equipment used in weaving Akwete Cloth

Statement	Frequency	Percentage(%)
What type of Loom do you use?		
(a) Vertical loom	58	95.0
(b) Horizontal loom	2	3.0
(c) Both a and b looms	1	2.0
Total	61	100

The responses as shown in Table 2 indicate that 95% of /58/ respondents weave with vertical loom. 2/3%/ claim to weave with horizontal loom while 1/2%/ indicate they weave with both vertical and horizontal looms. The vertical loom (women's loom) usage is predominant among the looms indicated by the respondents. The wide range of vertical loom utilization is probably due to the fact that the Akwete cloth weaving (craft) is done by the women only and therefore they weave with the vertical women's loom. Observation in the field showed that there exists only one type of loom which the weavers or craftwomen called 'Nkwe loom. Nevertheless, certain

respondents have indicated that they use other types of looms apart from the vertical one; this has been allowed to show up in the analysis to represent the percentage of that group of respondents who may not have understood the question and could not differentiate vertical from horizontal loom.

Table 3: Responses to any new material or equipment from 1983 to 1989

Statement	Frequency	Percentage(%)
If any motif, material or equipment has been added or excluded from the old ones since 1983, name them?		
Express motif added	14	22.0
Kiss me motif	10	16.0
Sweet mother motif	9	15.0
Rose flower motif	5	8.0
Osonde Owende motif	5	8.0
Aeroplane motif	4	7.0
Hibiscus flower motif	3	5.0
Zero responses observed	3	5.0
First Lady motif	2	3.0
Ebe Akara na ebe uhie motif	2	3,0
Ebe motif	1	2.0
Akawa motif	1	2.0
Candle motif	1	2.0
Barb wire motif	1	2.0
Total	61	100

Response to Table 3 points out that 14/22%/ of those who responded have noticed that the 'express' motif has been added to design pattern, 10/16%/ showed that the 'kiss me' motif has been a part of new motifs since 1983. It was indicated by 9/15%/ of the responses received that 'sweet mother' is a new collection among earlier motifs. 'Rose flower' is a new introduction and was shown by 5/8%/ of the respondents. 'Osonde Owende' is a new addition to previous design while 4/7%/ proclaimed that the 'Aeroplane' motif is also new and 3/5%/ indicated the newness of 'Hibiscus Flower' but 3/5%/ failed to reply to this particular question. 'First Lady' motif was regarded as a novelty in motif creation by 2/3%/ respondents and 3/3%/ confirmed that 'Ebe Akara na Ebe Uhie' motif has been integrated to old designs. 1/2%/ responded that the 'Ebe' motif is also another version of the above motif and a new introduction. Nonetheless, 1/2%/ believe that 'Akawa' motif is recently founded and 1/2%/ observed that the 'candle' is a current introduction of design while 1/2%/ of the respondents added that 'Barb wire' is also new.

From Table 3, it is clear that the Akwete weavers are objective and therefore are constantly introducing new motifs to expand their collection of designs while no equipment was found to be newly introduced or excluded, nothing was excluded at all.

As many as 47/77%/ out of the 61 respondents suggested a need to improve in all these areas namely, equipment, motifs, patterns, yarns and dyes. A sizeable number 12/20%/ of responses specified that there is a need to improve on yarns and dyes only, while the remaining 2/3%/ indicated the need to improve on motif patterns alone.

It was shown by 52/85%/ of the respondents that the loom equipment used in weaving Akwete cloth is manufactured by a local loom producer on order basis, while 9/15%/ of the respondents claimed that the loom is made available in the Akwete local market, or also manufactured by order through a local loom producer.

This limitation on availability of Akwete loom and its reproduction is probably restrained by the fact that the loom is made differently and wider than Okene, Hausa and Yoruba women's vertical looms, Okeke remarked /1982/. This has been coupled with the fact that the craft is maintained highly secretive.

Of the 61 respondents, 40/66%/ believe that in comparison with imported material and equipment, the locally produced materials and equipment are preferred to the imported ones. 10/16%/ respondents showed that the local materials are more difficult to get. 5/8%/ of those who responded indicated that local materials are highly expensive. 3/5%/ felt that

the locally produced Akwete weaving materials are easier to obtain or procure while 2/3%/ attested that local materials are cheaper and 1/2%/ responded that local materials and equipment are not preferred.

Table 4 : Responses to the steps and technique Used in producing Akwete cloth

Statement	Frequency	Percentage (%)
Name the steps in technique you use in production of Akwete weave.		
Starching the yarn	22	36.0
Drying the yarn	4	7.0
Spinning the yarn	2	3.0
Rolling the yarn	13	21.0
Threading the loom	9	15.0
Weaving the cloth	10	16.0
Zero response	1	2.0
Total	61	100

Table 5: Results from Questionnaire Based on Percentage Relationship of Tribal Origin of Akwete Cloth Producers (Respondent)

Statement	Frequency	Percentage (%)
Tribe?		
a) Igbo from Akwete town	58	95
b) Igbo not from Akwete town	3	5
c) Other tribe but Nigerian	0	0
d) Non Nigerian but African	0	0
Total	61	100

Table 6: Percentage Relation of Male and Female Weavers of Akwete Cloth (Respondents)

Statement	Frequency	Percentage (%)
Sex?		
a) Male	0	0
b) Female	61	100
Total	61	100

The table 4 indicates that 22/36%/ of the respondents believe that starching or sizing is a step which must be taken prior to embarking on cloth production. 13/21%/ attested for yarn rolling step. Threading the loom is an important step according to 9/15%/ while 10/16%/ confirmed that the weaving of the cloth is the final step in this preparation and the drying of the yarn is believed by 4/7%/ to be one of the steps. 2/3%/ indicated that spinning is also done. It is more probable that the spinning involved here is just undertaken to double the purchased yarn since the raw fibre was not seen at all during my field work at Akwete town.

24/39%/ said that they would need 6 to,7 days to finish a simple design weave. 16/26%/ of those who responded indicated that they would require 4 to 5 days to weave the same simple pattern cloth.

It was implied by 12/20%/ of the respondents that they would need 2 to 3 days to complete the simple pattern cloth while 6/10%/ would take about 8 to 28 days to weave the said cloth and 3/5%/ failed to respond to that question.

Out of 61 respondents who returned the questionnaires, 34/56%/ claimed that it would be possible to produce a complex pattern in 7 to 10 days. 12/20%/ said that they would need 11 to 14 weaving days to complete one complex pattern. It was indicated by 6/10%/ respondents that they would be able to produce a complex pattern in 4 to 6 days and 2/3%/ believed that they would require as much time as 15 to 21 days to produce the same complex design cloth and 2/3% were convinced that they would take up more weaving days of about 22 to 42 days to finish a complex pattern Akwete cloth. It is interesting to observe that the full time experienced Akwete cloth weavers fall within the middle range of /11 to 14 days/ time in this production of complex pattern cloth. It is more probable that this group of weavers is more careful in weaving for the purpose of achievement of perfection in the weave pattern. On the other hand, the youth gave

zero responses to the time allocation question to complex pattern while it was indicated by them that they would employ 6 to 7 days to weave a simple pattern cloth. Nonetheless, the full time experienced weaver will produce this same simple pattern cloth in 4 to 5 days. The middle age part time weavers claimed that it is possible to weave a simple designed weave in 2 to 3 days and a complex design within 4 to 6 days.

42/69%/ out of 61 who responded said there existd the traditional Akwete type only made from local yarns and dyes. One group of respondents 17/28%/ believed that the contemporary Akwete type alone, derived from imported yarns and dyes existed only. A small fraction of respondents 2/3%/ felt that another type of Akwete woven piece, from both traditional and contemporary yarns and dyes is available only. This last group of respondents is probably closer to the truth. Judging from the fact on literature and interview in the field, it was observed that the rayon yarns 'Silk' used in the decoration of these cloths are imported, while the cotton yarns are locally made. Nevertheless, the Akwete weave needed for this research can be produced

entirely from local materials since rayon yarns beautification is not necessarily important to make the cloth protective against cold weather. The traditional Akwete cloth will serve the purpose.

Out of the 61 responses received, 59/97%/ said they produced Akwete weave made from wholely local yarns and dyes. Only 2/3%/ indicated that they did not weave cloth from locally made yarns and dyes.

When asked where they got their locally spun cotton and dyes 52/85%/ indicated that they purchased those materials from Akwete local market. A percentage of 5/9%/ said they obtained the materials from neighbouring towns of Akwete area. 2/3%/ claimed they used personally produced yarns and dyes and 2/3%/ showed they got their yarns and dyes from both the Akwete local market and surrounding towns.

It was observed by 39/64%/ of respondents that they produced a moderate number of 30 to 50 traditional Akwete weaves in a year. 13/21%/ of the respondents stand for just a few production of about 5 to 20 traditional Akwete cloths in a year. The rest 9/15%/ said that they did produce as many as 100 to 200 pieces and above in a year.

When asked if the weavers do produce contemporary Akwete, derived from Commercial yarns and dyes, 8/13%/ indicated yes while the majority group of the respondents 53/87%/ confirmed that they do not weave it.

42/69%/ of those who responded yes or no, said they do not produce this type of Akwete weave. 10/16%/ said they produce a moderate quantity of 30 to 50 of the contemporary Akwete, derived from commercial yarns and dyes. 6/10%/ believe that they do produce a large number of 100 to 200 and above while 3/5%/ indicated that they do produce just a few quantity of 5 to 20 in a year.

When asked to select a traditional Akwete weave from a group of three types - 'George cloth', 'Popo cloth' and Akwete cloth', 57/92%/ identified Akwete cloth to be traditional Akwete weave. 3/5%/ indicated that George cloth is a traditional Akwete weave while 2/3%/ singled out the popo cloth as a relevant traditional Akwete type. It is interesting to observe that eventhough there was another option which read - other types not included in the questionnaire, no respondent suggested this option. This is probably an indication that there is no other popular Akwete cloths.

59/97%/ said there is difference in the production of the above cloths while 2/3%/ believe that there is no existing difference in the production of George cloth, Popo cloth and Akwete cloth.

A large group of 58/95%/ of those who returned the questionnaires said there exists a difference in the production of all the three groups of cloths - George cloth, Popo cloth and Akwete cloth. 2/3%/ of the respondents saw variation in the production of Popo cloth only, while 1/2%/ of those who also said yes to the existing difference in the production of the cloths indicated that this diversity is present in George cloth production alone.

43/70%/ out of 61 respondents said this difference occur in warping method. 14/24%/ realised that difference is present in creating motifs alone. 2/3%/ said the variation can be found in setting the loom and the remaining 2/3%/ believe that the difference can be seen in the use of patterning tools only.

It was affirmed by 56/92%/ of the respondents that both the traditional and contemporary Akwete cloths are densely packed/woven and heavy for cold weather usage. A small group 5/8%/ said that the contemporary Akwete group of cloth are more densely packed/woven and heavier than the rest. Interview in the field showed that the density and heaviness of each group of cloth will depend on the sincererity of the weaver to produce a solid cloth or a poor quality cloth. Therefore no group of Akwete cloth is superior to the other in this regard.

39/64%/ of those who responded said that the yarn counts are not equal in number for the warp and weft yarns. 18 people /29%/ did attest that the yarn counts are rather the same in number for both the warp and weft yarns but 4/7%/ failed to provide answer to this question.

46/75%/ testified that the weft yarns are less in number of yarn count. 15/25%/ showed that the warp has less number of yarn count.

When asked to provide reason for the variation in yarn count, 28/48%/ specified that production is varied by making it possible for the warp to have three rolls of yarn and the weft having four rolls of yarn. 4 people /7%/ responses showed that the warp is more densely packed to achieve a heavier weave. 4/7%/ indicated that the warp is made to contain three strands of yarn while the weft has six strands of yarns. 3 people /5%/ respondents established that much ground is covered by weft and 2/3%/ said that production differs in the sense that the warp and weft are not of the same length. No responses was received from 20 people /33%/ of the respondents.

It was indicated by 56/92%/ that Akwete weave has good colour fastness to washing and drying and therefore less difficult to maintain on home care method. 3/5%/ respondents stated that the contemporary

Akwete type is less problematic on home care and maintenance and 2/3%/ said both the traditional and contemporary types are not difficult on home care maintenance.

39/64%/ of the respondents affirmed that the Akwete cloth does not shrink after washing and 22/39%/ believe that the cloth will shrink after washing. A number of parameters can affect shrinkage. The major ones are tension from loom arrangement, yarn count and the nature of fibres or yarns used in weaving the fabric.

It was verified by 33/54%/ of the respondents that none of the Akwete cloths is subject to shrinkage but 15/25%/ responses indicated that both the traditional and the contemporary Akwete cloths are rather subject to this shrinkage. 13/21%/ specified that it is only the contemporary Akwete cloths that shrink. This problem was highlighted by Lamb et al /1980/ who separated the performance of traditional Akwete from the contemporary Akwete. According to her, the traditional Akwete cloth, especially those woven prior to 1930s behaved better than the contemporary Akwete cloths of later years.

To guide against some of these problems, 39/64%/ out of the 61 respondents suggested home washing with mild soap to other cleaning methods. 17/28%/ indicated no cleaning at all. 3/5%/ mentioned washerman care and maintenance technique while 2/3%/ observed

dry cleaning as the best method.

When asked of ways of selling the Akwete cloths, 52/85%/ showed that they sell them through middlemen/ Association show room, on order by client and directly to the consumers. 6/10%/ said they sold theirs on order by client only. 3/5%/ who have a different view indicated that they marketed theirs directly to consumers.

48/79%/ indicated that channel of marketing or distribution is found at local market, in the home and in large cities also. 6/10%/ chose home channel as their favourite distribution techniques while 5/8%/ specified that they prefer local markets channel of distribution.

It was believed by 23/38%/ respondents that cloths produced from local materials yield higher return on sale. 19/31%/ whose view varied said that cloths produced from commercial material yield a higher return on sale while the other 19/31%/ established that the two types of cloths being discussed do yield high return on sale.

Out of 61 responses received 19/31%/ said the highest amount they ever sold their woven Akwete cloths was found with the 'Express' pattern cloths, which marked the price range of ₦300.00 to ₦1,500.00. The 'Kiss me cloth' was said to have been disposed off, at a high amount of ₦350.00 to ₦900.00 by 10/16%/. respondents while 9/15%/ pointed out that 'Volvo' was sold as high as ₦250.00 to ₦386.00 and 'Popo' pattern

cloth showed to have merited a price of ₦250 to ₦500.00 by 5/8%/ respondents. Ikaki cloth was espensively marketed at the price of ₦460.00 to ₦600.00 by 4/7%/ of the respondents. Further more, 'Rose Flower' was marketed at a high price of ₦900.00 to ₦1,000 by 4/7%/, while 'Sweet mother' attracted a high price of ₦250.00 to ₦350.00 and sold by 3/5%/ respondents. It was indicated by 2/3%/ of respondents that 'First lady' pattern cloth was traded at a high cost of ₦400.00 to ₦460.00 while the 'crown pattern' cloth was sold at a high price of ₦250.00 to ₦500.00 by 2/3%/ of those who responded to this question and the 'Queen of the Road Cloth' design was traded at the cost of ₦300.00 to ₦350.00 by 2/3%/ of respondents. 2/3%/ sold 'George cloth' which excelled for ₦250.00 to ₦300.00.

Out of the 61 respondents 29/48%/ said that the lowest price ever received on 'Ebe' pattern cloth was in the range of ₦60 to ₦700.00. 'Popo 'cloth was observed by 9/15%/ ofo have been sold as low as ₦100.00 to ₦500.00 while 4/7%/ of those who responded believe that a low price of ₦144 to ₦250.00 was received on 'Aziza' cloth and the 'sweet mother' sold at a low price of ₦112.00 to ₦350.00 by 4/7%/ of the respondents.

The 'Kiss Me' cloth was poorly sold at ₦340.00 to ₦500.00 by 3/5%/ of those who responded. 'Ikaki' was shown to have been poorly marketed at the cost of ₦100.00 to ₦250.00 by 2/3%/ and the 'Bench pattern' cloth sold at ₦280.00 to ₦350.00 by 2/3%/ respondents. Expressing dissatisfaction, 2/3%/ said 'Urera' cloth yielded a low price of ₦100.00 to ₦250.00 at one occasion, while 'Rig' cloth merited ₦280.00 to ₦360.00 only and sold by 2/3%/ of those who responded. 2/3%/ of respondents said that the 'Rose Flower' once earned an unfavourable amount of ₦280.00 to ₦460.00 and the 'Volvo' cloth according to 2/3%/ was poorly traded at the price of ₦280.00 to ₦370.00.

A majority group of 58/95%/ of those who gave responses indicated that their customers include Nigerians and foreigners. 3/5%/ said their clients are Nigerians only.

To respond to the question about the age range of their customers, 56/92%/ said their customers age range include all ages and 3/5%/ expressed that the ages of their clients is between 33 to 50 years. In answering the same question, 2/3%/ noticed their clients age to extend from 21 to 32 years.

It was indicated by 48/79%/ of the respondents that the buyers of Akwete cloths are from the low income group. 9/15%/ said they sold their cloth to affluent men and women while 2/3%/ had a different opinion and stated that those they sell to are in the middle class status.

59/97%/ of the respondents support the introduction of new method in using Akwete cloth. The rest, that is, 2/3%/ objected to the idea of using Akwete cloth to design anything new, but they gave no reason for their objection.

The larger group of respondents, that is, 59/97%/ specified that they will want the Akwete cloth to be used in designing cold weather garment, suits and trousers as well as tailored dresses. The remaining 2/3%/ out of 61 respondents indicated that they would like Akwete cloth if used to design tailored dresses alone.

The act of tailoring Akwete cloth into cold weather garment is thought by 58/95%/ of those who responded to probably open new avenue of demand for their cloth production. Nevertheless, 3/5%/ believed that this tailoring process will do numerous things to their weaving craft - namely put them out of job, make people to stop using Akwete cloth as wrapper and at the same time open new avenue of demand for their cloth production. This last group of respondents perhaps did not understand the question asked here because they chose all of the above as option to their answer, which made their response contradictory, because the use of Akwete cloth in this research can not open new avenue of demand for Akwete weavers and put them out of job at the same time.

It was believed by a majority group of 41/67%/ out of the 61 respondents that the demand for Akwete cloth is on the increasing side. 10/16%/ or those who responded failed to respond to this question. 4/7%/ said the trading of the woven pieces has a problem of high cost from yarns. Other 4/7%/ noticed a problem created by various prices assigned by individual weaver in the sale of their cloths. 2/3%/ has shown a problem in marketing the cloths on credit basis. The issue of use of varied prices can be seen with the earlier responses from each weaver where different prices were used to market even the same type of cloth design. Nevertheless, the stablishment of the association and the operation of association show room is to reduce range of prices, thereby harmonising prices among the weavers, Lamb et al expressed /1980/.

33/54%/ of the respondents chose all of the above option that means that, Okene cloth, Nupe cloth, Bendel cloth, (Kente) as well as Aso-Oke cloth can be used along with Akwete cloth in this purpose. The remaining that is 28/46%/ of the respondents said they will prefer Aso-Oke cloth alone to assist Akwete weave for the purpose of variety in designing the cold weather garment. In order to make use of the above alternative weaves, there may be a need to test and study any one of

the suggested weaves above in this direction before their adoption for the purpose. Nevertheless, many studies have been carried out on Okene cloth although not for the purpose of harmattan usage.

39/64%/ said Akwete cloth can be made heavier for harmattan purpose through a design technique of doubling the commercial yarns during weaving. 19/31%/ indicated that the same quality can be achieved by packing the warp yarns tight during weaving. 7/11%/ agreed with all of the above design methods plus additional technique of increasing the number of fibre during twisting and spinning and 6/10%/ said that the effect is possible by introducing additional structural weaving design.

It was expressed by 34/56%/ that government assistance is needed. 8/13%/ specified that this expected government produced yarns should be made available at a cheaper rate. 7/11%/ established that there is need to improve materials. 5/8%/ affirmed that government should produce yarns, while 3/5%/ of the respondents suggested government loan grant to Akwete weavers and to other traditional weavers in Nigeria.

4.2 Finding From Field Work

I must give credit to previous writers on this subject. It was confirmed in the field that most reports found in literature review were authentic. Nevertheless, an observation was made in my field work. This point is different from the previous notion and cannot be lumped together. It was noticed in the field that weavers from other localities who learnt the craft of weaving from Akwete do weave outside Akwete of Ndoki located in Ukwa Local Government of Imo state.

Mrs. David was observed weaving at the Afor market in Acha Isuikwuato of Imo State. She was not only producing Akwete cloths beyond Akwete territory, but has four apprentice youths learning the weaving craft. Mrs. Ogbonna of the same Acha town, mentioned that she was unable to continue weaving back home away from Akwete town because the weaving threads were expensive. Mrs. Onyeje of Ihube in Okigwe Local Government of Imo State was also found to be weaving outside Akwete territory.

4.3 Types of Yarn Used in Weaving Akwete Cloth

Three types of yarns are available for the recent Akwete weaving - namely: Cotton, rayon, and plastic-like metallic. The statement of inexistence of spinning among Akwete weavers confirmed the authenticity of literature. What is used is the traditional.

cotton, processed by Nigerian indigenous industries, which they the Akwete weavers called "Commerce" yarns.

Mrs. Stoneson a yarn seller in Akwete grouped the Akwete yarns in a category of unsized and undyed yarns. A second group of yarns is the sized and dyed yarns with poor fastness. Another category of yarn is dyed, and sized yarn with high fastness, but more expensive than the first two above. Then another group is made up of different types of rayon yarns, which are highly expensive. Finally, is the gold and silver metallic yarns, which are extremely costly.

Mrs. Ude, who agreeed with Mrs, Stoneson in her description of Akwete yarns, made mention that individual weaver can purchase the group one category of unsized, undyed yarn and treat it to arrive at group two of poor quality fast yarn in the home, which can be improved with dyeing experience. According to her, the third category with high fastness can only be processed by companies in Aba and these are sold in Aba Central Market. She added that the same yarn can be processed for the individual Akwete weaver by special order. This Aba processed yarn is what the Akwete weavers recognised as "Commerce" yarns and the best, because they can be used to produce Akwete cloths, which do not fade to light and washing.

4.4 Embelishment Methods

According to Mrs. Goldson of Akwete Secondary Technical School, there is no definite method in creating fringes on Akwete cloths. She added that the purpose of fringes on all Akwete cloths are for beautification of the cloth while its length and style varies according to choice.

The origin of weft borders embelishments are functional and aesthetic. Mrs. Nwangwuo mentioned that weft borders were originally black colour and first used to prevent the lower edges of the cloth from revealing presence of dust. She indicated that black borders are not always used in present day Akwete cloths. Mrs. Eke, who favoured the view, expressed that any one colour from the base yarns of Akwete cloth can be used to create border for the purpose of matching colours elegantly. She testified that sometimes, borders are not compulsory. When border is adopted, it is most likely to appear on both sides of the cloth.

4.5 Measurement of Akwete Weaving Instruments

Lamb et al /1980/ and Afigbo et al /1982/ gave a few measurements on Akwete weaving instruments. Majority of Akwete weaving instruments were measured and recorded, because the various Akwete weaving instruments were brought to Ahmadu Bello University for this study. These measurements may vary from one

location to another but the ones studied are as follows:

	Length	Width
Otiti	1.57 metres	4 centimetres
Paa-paa	1.55 metres	1.5 centimetres
Nkwechite	1.5 metres	2.5 centimetres
Ekike	1.54 metres	5.5 centimetres
Ugwu Ngburu	1.54 metres	8.5 centimetres
Agba	1.15 metres	.5 centimetres
Ahia	1.46 metres	.05 centimetres
Nkpo	Not available.	

4.6 Analysis of Weave Samples

The width of the weave = 27.cm

= 27 cm x 20 ends

Total end per centimetre = 540 ends

Each end has 4 strands of yarns or 4 . strands of yarns make up one end. I need more yarns of strands to make the fabric thick for the purpose I want to achieve in this study.

Akwete weave has embalishment characteristics of additional weft decoration besides the foundation weave (tabby). The 'Atu' motif in red weft decoration has

30 picks (weft), showing in the area of the fabric. The base in yellow Where the Atu is standing has 6 picks (weft) for its construction. For the Atu legs - 8 picks are required.

The 'Ikaki' motif in green and red weft embelishment has 14 picks (weft) from angle of the square to the opposite angle. The 'Bow Tie' or 'grand nut' motif has 18 picks verticalwise. The 'Ije Ajwo' motif has 16 picks lengthwise and 10 picks widthwise.

4.7 Measurement of Colour Fastness to Washing

In order to assess the resistance of the colour of the dyed Akwete cloths to washing, three differente Akwete cloths, of pink, red, and yellow colours respectively, were subjected to standard washing tests. The tests carried out were the I.S.O. (International Standard Organisation) tests 2,3, and 4 as specified in the 'Standard Methods for the Determination of the Colour Fastness of Textiles', 3rd Edition, published by the Soceity of Dyers and Colourists (Bradford, England).

The washing conditions for the I.S.O. 2 to 4 tests, whose severity also increase in this order are as follows.

Table 7:

Wash Test	Treatment Temperature	Treatment Time	Composition of Test Solution
I.S.O. No. 2	50°C	45 min	5g/litre soap
I.S.O. No. 3	60°C	30 min	5g/litre soap 2g/litre soda ash
I.S.O. No. 4	95°C	30 min	5g/litre soap 2g/litre soda ash

4.7.1 Size of Samples and Washing

Two fabric samples were used in each test. One of these was the dyed Akwete cloth and the other was a plain white cloth for the determination of the degree of staining. Each fabric sample measured 10 cm by 4 cm as specified in the literature. These samples were then stitched at one end for the test.

The two stitched fabrics samples were immersed in the required volume of soap solution (enough to completely cover the samples) and placed in the Lini-Tester washing machine. The samples were treated in this machine at the required temperature for the specified time, then taken out, rinsed in cold water and dried in an oven at 60°C.

4.7.2 Assessment of Change in Colour, and Staining

The washed and dried stitched samples are first separated. The dyed sample is laid on a table, side by side with a sample of the original dyed fabric (un washed). The grey scale for assessing change in colour is placed nearby, and the contrast between the washed and unwashed dyed fabric is compared with each of the contrasts on the grey scale. The fastness rating of the washed textile with regard to change in colour is the number of the Grey Scale contrast which corresponds most closely with that shown by the washed and unwashed dyed fabric samples.

Colour fastness in respect of staining is measured in the same way as the above but with the Grey Scale for Assessing Staining. Colour fastness to washing, as well as staining, is measured on a 1-5 scale, with rating 5 denoting maximum fastness and rating 1 minimum fastness.

The results obtained with the pink, red and yellow Akwete cloths are shown below in Tables 8,9, and 10.

Table 8: Colour fastness of the Pink Fabric

Washing Test	Colour Fastness Rating	
	Change in Colour	Staining on Cotton
I.S.O. 2	4 - 5	5
I.S.O 3	3 - 4	4
I.S.O. 4	2 - 3	3

Table 9: Colour Fastness of the Red Fabric

Washing Test	Colour Fastness Rating	
	Change in colour	Staining on Cotton
I.S.O. 2	3 - 4	5
I.S.O. 3	3	4
I.S.O. 4	2 - 3	4

Table 10: Colour Fastness of the Yellow Fabric

Washing Test	Colour Fastness	
	Change in Colour	Staining on Cotton
I.S.O. 2	4 - 5	5
I.S.O. 3	4	4 - 5
I.S.O 4	3	4 - 5

The results in Table 8,9, and 10 show that the traditionally dyed Akwete cloths have good resistancce to washing, especially when washed at temperatures not exceeding 60°C as in the I.S.O tests 2 and 3. At higher washing temperature, as in the I.S.O 4 test, the colour fastness is significantly reduced. The staining results in Tables 8,9, and10 above shows that not much staining occurred on adjacent cotton fabric when the dyed Akwete cloth samples were washed at temperatures not exceeding 60°C. Staining however becomes significant, especially with the Red sample, when washing is done at temperatures up to 95° C. as in the I.S.O. 4 test. The yellow sample showed the greatest resistance to staining. (It should be noted that a rating of 1 shows maximum or extremely high level of staining).

4.8 Measurement of Light Fastness

Although no standard equipment was available for the measurement of light fastness, the following method was used to estimate the resistance of the colour of the dyed Akwete yarns to daylight.

One half of each dyed sample was covered with cardboard on both sides and these were stapled onto the yarn. The samples were then exposed to daylight under dry conditions for a total of 48 hours, 8 hours each day, the total exposure period being 6 days. At the end of the exposure period, the samples were removed, and the contrast between the exposed and the unexposed portions was assessed using the I.S.O light fastness standards. These standards consists of blue dyeing on wool cloth, exposed along with the samples and these form a scale ranging from No. 1 (very low light fastness) to No. 8 (very high light fastness.)

The Light fastness ratings for the pink, red and yellow Akwete yarn samples are given below in Table 11

Table 11: Light Fastness of the Pink, Red and Yellow Akwete yarn samples

Fabric Sample	Light Fastness Rating
Pink	4 - 5
Red	4
Yellow	5

The data in Table 11 shows that the dyed Akwete colours are moderate to good in their resistance to daylight exposure.

4.9 Measurement of Yarn weight per Unit Length

The measurement was done to provide information about the weight per unit length of yarns used for weaving Akwete cloth. This weight per unit length provides an indirect measure of yarn count. A similar measurement was done using yarns for weaving other types of cloth like shirting. The two measurements are then compared.

The results obtained are shown in Table 12.

Table 12: Measurement of Yarn Weight Per Unit Length

	Weight of 110 metres (gm)					Average Weight (gm)
	1	2	3	4	5	
Akwete	9.93	8.25	11.34	8.33	9.82	9.40
For other Fabrics, e,g Shirting	5.27	5.29	5.27	5.29	5.30	5.28

The results given in Table 12 show that the Akwete cloth is woven from yarns which are much heavier than those for ordinary types of cloth. The Akwete yarns were found to be 6-ply for the warp and 4-ply for the weft yarns.

Table 12 further shows that the weight per unit length of Akwete cloths varies widely, whereas the industrial yarns for other cloth types are more or less uniform in their weight per unit length. This may be due to the irregularity introduced into the yarns by the traditional spinning method.

4.10 Measurement of Air Permeability

Due to the manner in which yarns and fabrics are constructed, a large portion of the total volume occupied by a fabric is, in fact, airspace. The distribution of this airspace influences a number of important fabric properties such as warmth and protection against wind and rains.

Air permeability is of particular relevance to the present work, since it measures the flow of air through a piece of cloth. The flow of air through a cloth provides an indirect measure of its warmth, and hence of its ability to offer protection from cold weather.

The equipment used is the Shirley Air Permeability Apparatus. The air permeability of a fabric is the volume of air in cubic centimetres passed per second through 1 cm^2 of the fabric under a pressure of 1 cm of water.

The test is carried out on typical Akwete fabric samples. Similar measurements were also carried out on Shirting and Drill fabrics for comparison.

The results obtained are tabulated in Tables 13 and 14.

Table 13: Air Permeability Readings on Akwete Fabric Samples

Akwete Fabric Sample	Air Permeability	Average Air Permeability (Cm^3/Sec)
A	1. 21.2 2. 20.0 3. 15.4 4. 13.6 5. 18.6	17.8
B	1. 24.3 2. 21.5 3. 17.8 4. 14.4 5. 22.6	20.1
C	1. 11.4 2. 17.7 3. 14.4 4. 19.5 5. 11.2	14.8
D	1. 19.8 2. 20.4 3. 25.1 4. 18.5 5. 19.9	19.54

Table 14: Air Permeability on Other Types of Fabric (Shirting and Drill)

Fabric Type	Air Permeability (Cm^3/sec)	Average Air Permeability (Cm^3/Sec.)
Drill A	1. 34.2 2. 34.3 3. 33.2 4. 34.0 5. 30.2	33.2
Drill B	1. 28.6 2. 32.5 3. 35.0 4. 32.6 5. 35.0	32.7
Shirting A	1. 265.3 2. 317.0 3. 420.0 4. 356.6 5. 420.0	355.8
Shirting B	1. 360.0 2. 315.0 3. 295.9 4. 315.0 5. 315.0	320.3

The results given in Tables 13 and 14 show that the Akwete cloth is very resistant to air flow. Its resistance to flow of air is much greater than that of an ordinary tightly woven fabric such as Drill, and several times higher than that of shirting fabric.

The very high resistance of Akwete cloth to air flow shows that it is a suitable fabric for the design of cold weather clothing.

4.11 . Measurement of Abrasion Resistance

Abrasion is the rubbing away of the component fibres and yarns of a fabric. The measurement of abrasion resistance of a fabric is one method of determining the durability or serviceability of the fabric.

To determine the serviceability of Akwete cloth when used for cold weather apparel, the abrasion resistance of different samples of Akwete cloth was measured. Identical measurements were also carried out on a shirting fabric for comparison. The equipment used is the Shirley Abrasion Resistance Tester.

The end-point of each test was chosen as 30,000 rubs. Abrasion was measured by the loss in weight of each fabric sample as the number of rubs increased from 0 to 30,000.

Measurements were performed on Fig, Volvo, and Ikaki Akwete cloths as well as on shirting fabric.

The results obtained are shown in Figure 1 for the ikaki, Fig and Volvo Akwete cloths and shirting fabric.

A graphical plot of the result obtained with the Ikaki Fig and volvo Akwete cloths and the Shirting fabric for Sample I of each is shown in Figure 1 for 0, 2000, 6000, 10,000, 18,000 and 20,000 and 30,000 rubs.

Table 15: Abrasion Resistance of Ikaki Akwete Fabrics

No. of Rubs	Weight in Grammes			
	Sample I	Sample II	Sample III	Sample IV
0	0.71	0.51	0.48	0.66
1,000	0.71	0.51	0.48	0.66
2,000	0.70	0.51	0.48	0.66
6,000	0.70	0.50	0.48	0.65
10,000	0.69	0.49	0.47	0.64
14,000	0.69	0.49	0.47	0.63
22,000	0.68	0.49	0.46	0.63
26,000	0.68	0.48	0.46	0.63
30,000	0.67	0.48	0.45	0.62

Table 16: Abrasion Resistance of Fig Akwete Fabric

No. of Rubs	Weight in Grammes			
	Sample I	Sample II	Sample III	Sample IV
0	0.53	0.54	0.52	0.51
1,000	0.53	0.54	0.51	0.51
2,000	0.53	0.53	0.49	0.49
6,000	0.51	0.51	0.39	0.47
10,000	0.50	0.48	0.39	0.46
14,000	0.49	0.47	0.39	0.45
18,000	0.48	0.47	0.38	0.44
22,000	0.48	0.47	0.38	0.43
26,000	0.46	0.45	0.38	0.43
30,000	0.45	0.43	0.37	0.42

Table 17: Abrasion Resistance of Volvo Akwete Fabric

No. of Rubs	Weight in Grammes			
	Sample I	Sample II	Sample III	Sample IV
0	0.35	0.48	0.56	0.35
1,000	0.35	0.48	0.56	0.35
2,000	0.34	0.48	0.55	0.35
6,000	0.33	0.47	0.55	0.34
10,000	0.33	0.47	0.54	0.34
14,000	0.33	0.46	0.54	0.34
18,000	0.32	0.46	0.53	0.34
22,000	0.32	0.45	0.53	0.33
30,000	0.31	0.44	0.52	0.33

Table 18: Abrasion Resistance of Shirting Fabric

No. of Rubs	weight in Grammes			
	Sample I	Sample II	Sample III	Sample IV
0	0.16	0.17	0.16	0.16
1,000	0.16	0.17	0.16	0.16
2,000	0.15	0.16	0.15	0.15
6,000	0.15	0.16	0.14	0.14
10,000	0.14	0.15	0.14	0.14
14,000	0.13	0,15	0.12	0.13
18,000	0,13	0.14	0.12	0,13
22,000	0.12	0.13	0.11	0.12
26,000	0.12	0.12	0.11	0.11
30,000	0.10	0.11	0.10	0.11

The results given in Tables 15, 16, and 17 for 'ikaki, fig and volvo Akwete cloth samples show the fabrics to have very high resistance to abrasion (or rubbing), as measured by the slight change in weight as the number of rubs increased from 0 -to 30,000. The values also show that all the samples measured exhibited about the same level of resistance to abrasion.

The results in Table 18 for shirting fabric show that the Akwete fabric is superior to fabrics like shirting in abrasion resistance, and hence also in durability or serviceability.

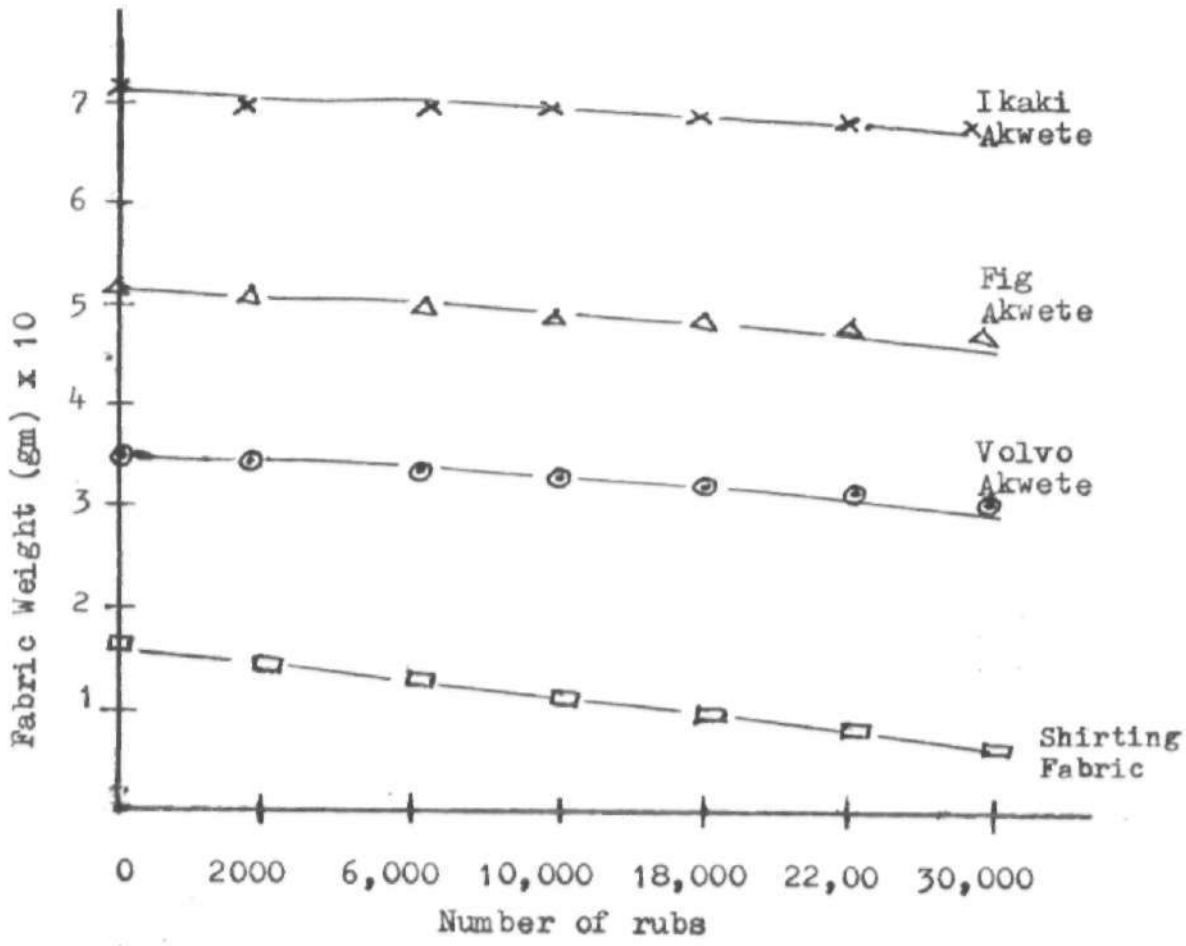


Figure 4.1 Abrasion Resistance of Akwete Fabric samples and Shirting Fabric

4.12 Sizing Test

In order to measure the presence of starch on the fabric, white, pink, cream, yellow and green Akwete yarns were provided. Each specimen was immersed in a standard iodine colour agent. The yarns were assessed after drying at room temperature. Observation showed bluish black colour instead of the original colour of the tested yarns. Results from the tested yarn samples are shown in Table 19.

Table 19: Sizing Test of Akwete Yarns

Samples	Type of Cloth	Colour After Test	Inference
1.	Ikaki	Bluish black stain	Sized
2.	Atu	Bluish black stain	Sized
3.	Ije Agwo	Bluish black stain	Sized
4.	Bow Tie	Bluish black stain	Sized
5.	Isi Anu	Bluish black stain	Sized
6.	Volvo	Bluish black stain	Sized
7.	Express	Bluish black stain	Sized
8.	Aziza	Bluish black stain	Sized
9.	Coat of Arm	Bluish black stain	Sized

Summary

The Akwete fabric production is a learned craft and maintained in the family. Majority of these weavers have tremendous affection for the existing progress in the area of the cloth production and will guard against any failure in the decline of quality of the cloth.

The steps and methods of production are strictly followed by majority of the respondents, thus detailed responses were received on specialized portion of the questionnaire, with regularities among all those who responded.

Authencity of literature review was tested on survey questionnaire instrument, hence respondents, operational observation (loom weaving) and interviews included producers at all ages. It should be noted that Akwete cloth producers start weaving at extremely tender age and continue to latter years or sophisticated full time weavers.

CHAPTER V

RESULTS, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Results

The findings from the tests are shown in Tables 1 - 19 and in Figure 1. Table 1 highlights the percentage relationship of the types of materials used in the weaving of Akwete cloth. The percentage relation of specific looms used in weaving of Akwete cloth are classified in Table 2. Finding on new material or equipment and motifs introduced or excluded from the old ones since 1983 are shown in Table 3. Table 4 indicates the steps in technique used in the production of Akwete weave. Table 5 is the percentage relationship of tribal origin of Akwete cloth producers (respondents). The percentage relation of male and female weavers of Akwete cloth are indicated in Table 6.

Further observations from tests are shown in Tables 7 - 19. Table 7 shows the washing conditions for the I.S.O. 2, 3, and 4 tests. Tables 8, 9, and 10 are the colour fastness ratings of three Akwete sample cloths. Table 11 is the light fastness of three Akwete dyed yarns samples. Table 12 is the measurement of yarn weight per unit length and the average weight in grammes. Tables13 and 14 are the air permeability readings of

Akwete, drill and shirting fabrics for the purpose of comparison. Tables 15, 16, and 17 are the abrasion resistance of Akwete fabric. Table 18 is the abrasion resistance of shirting fabric while Table 19 is the sizing test of Akwete yarns.

Figure 4.1is a graphical plot of the abrasion resistance of three different akwete cloth samples, as well as a comparative plot for a shirting fabric. The abrasion resistance is measured by the loss in mass of fabric samples as the number of rub increased from 0 - 30,000

5.2 Discussion

5.2.1 Findings From Questionnaire

The responses from the designed questionnaire show that the men of Akwete town in Ndoki region do not participate in the weaving of Akwete cloth (Table 6). The majority of the female weavers are in the range of 12 - 19 years and the lowest number were between the age of 41 - 70 years.

Most of the designed motifs are created in the family. These motifs are passed from one generation to

another. 75 percent of the motifs are traditional type while 15 percent are conventional motif and 10 percent being a combination of traditional and conventional motif. The highest invention are found in motifs. The weavers are constantly introducing more motifs.

Akwete loom originated from a simple kitchen stool and it has now developed to sophistication of vertical broad loom today. The up-turned stool perform the function of a loom to the young girl of Akwete town.

Twelve (12) other instruments are needed alongside the loom before the actual weaving can take place. The yarns for this weaving are produced by companies in Aba, Imo State.

5.2.2 Yarn Count

The counts of the Akwete yarn are coarse, and vary widely from yarn to yarn. This could be assigned to the fact that the traditional drafting method from hand spinning is not as efficient as the roller drafting technique used for the production of commercial yarns. The Akwete yarns have great irregularities in contrast to about perfect shirting industrial spun yarn which has undergone a more thorough industrial spinning process. Table 12 shows that the count of the tested samples of Akwete yarn is 85.5 Tex, while that of the shirting yarn is 48 Tex.

5.2.3 Fabric Properties

5.2.3.1 Air Permeability

The air permeability of Akwete fabrics are much lower than those of shirting fabric. The greater number of fibres used in the spinning may have influence in Akwete cloth resistance to the passage of air. Nevertheless there are variations in the air permeability along the fabrics, which encouraged the finding of average for each group of cloth. The lower air permeability of Akwete compared to industrial fabrics such as shirting and drill show that it is a suitable material for the production of cold weather clothing.

5.2.3.2 Abrasion Resistance

The Akwete fabrics have very high resistance to abrasion. The cloth has better abrasion strength than shirting fabric. This resistance to abrasion can be assigned to the bulky nature of Akwete fabric. The Akwete fabrics have coarse yarns (6-ply) as warp and four yarns (4-ply) as weft. An additional attribute to good abrasion resistance is the structural surface design over the background area of the fabric. The shirting fabric has lower abrasion resistance due probably to the fact that the fabric was constructed from a thin fine single warp and weft yarns. The fabric is also without the surface woven-in design of Akwete. The high resistance of Akwete fabric to abrasion means that it is a durable fabric, which can withstand several years of use.

5.2.4 Care and Maintenance Method for Akwete Cold Weather Garment

Various washing tests were carried out on Akwete cloth namely - traditional and contemporary methods. The traditional washing was undertaken by hand washing with cold water and mild (bath) soap.

The samples were treated in a Lini-Tester washing machine at the required temperature for the specified time. The best result was shown by the sample washed in traditional method.

5.2.5 Yarn Weight Per Unit Length and Presence or Abasence of Starch in the Yarn

Tests performed on Akwete cloth yarn and on shirting fabric yarns (Table 12) show that the weight per unit length of Akwete cloth yarns is very much higher than that of ordinary fabric such as shirting. This shows the Akwete yarns to be of high count.

Iodine solution test carried out on yarns from different Akwete cloths (Table 19) shows bluish black coloration in each case. This shows that these yarns contain starch, i.e. they are sized.

5.3 Garment Construction for Cold Weather Apparel

The costume design for cold weather period started after the fabric was chosen. Muslin (baft) fabric was prepared and draped on the model form. The sloper patterns were developed from the muslin draped garment. The dress style was cut using the created sloper patterns. The seamlines of the cut garment shapes were stiched together creating one definite cold weather garment (gbarie) shape.

Methods for applying supportive (insulation) material were introduced. These insulation material were applied to the garment front and back chest areas to increase the pliability of the garment. A hood and trimmings were incorporated in the construction. The finished cold weather garment was finally pressed to smoothen and flatten the garment folded areas resulting from machine stitching operation.

5.4 Conclusion

Studies in textiles adaptation of this nature in Nigeria is very rare. The analysis of traditional Akwete cloth has shown that it has attractive features which recommend it as a suitable material for the production of cold weather apparel. These features are its high warmth (high resistance to air flow), its high durability or serviceability (high resistance to abrasion). Akwete fabrics have been shown to be superior to fabrics like shirting in abrasion resistance.

They also have good fastness properties from the dyes used on them.

The studies show that Akwete cloth weaving is a craft practised mainly in the Akwete town of Igboland. This weaving is done entirely by the women folk. In fact, men do not weave in the area. The studies (Tables 1,2,3, and 4) also show that eleven items - loom (nkwe), yarn, ahia, nkwechite, otiti, ekike, agba, paa-paa, dyes, eriri, and nkpo are used in the production of Akwete cloth. Ninety-five per cent of these items are made locally. Ninety-five per cent of the producers weave Akwete cloth on women's vertical loom.

New introductions were found in the area of motifs. As many as thirteen new motifs were found added to the old designs as from 1983 to present year. These new motifs include'express', 'kiss me', 'sweet mother', 'rose flower', 'Osonde Owende', 'aeroplane', 'hibiscus flower', 'first lady', 'ebe akara na ebe uhie', 'ebe', 'akakwa', 'candle' and 'bab wire'. No motif was discarded from the old onses since then. No new equipment was found added or excluded. The equipment used in the weaving have various shapes and measurements.

The Akwete cloth production has six stages - starching, drying, spinning, rolling, threading the loom and cloth weaving. All yarns used in the production of Akwete cloth are starched (sized) for resistance to breaking during weaving. The yarns used in the weaving of Akwete cloth have high weight per unit length. This means that these yarns are of very coarse counts. This is illustrated by the value of 85.5 Tex for the Akwete yarn reported in Table 12, while that of the shirting yarn was only 48 Tex.

5.5 Recommendation for Further Research

Findings indicate that the Akwete fabrics are bulky. This property makes the fabric suitable as cold weather apparel material for use in Nigeria.

1. For more studies, it will be recommended that the Akwete cold weather garment be designed into different geographic Nigerian garment styles with apparent modifications in line with Nigerian contemporary fashion. This is so because people will agreably wear a familiar dress style, but may hesitate to wear a strange garment style designed from unfamiliar type of fabric.

2. Let the drape of the Akwete fabric be investigated.

3. The drape and properties of other Nigerian traditional woven cloths such as Bendel (Kente) and Aso-Oke should be investigated with a view to extending the use of these materials to the production of cold weather apparel in Nigeria.

5.5.1 Recommendations to the Government and Educational Institutions

The government and educational institutions should come to the aid of traditional craft women (Akwete cloth producers) of Ndoki region. Educational institutions should organise seminars and workshops to enlighten the Akwete weavers and others on the purpose of element of design, colour scheme and their use. They should also be informed on the behaviour of fabrics and storage methods. There is also need to establish measures to improve materials used in Akwete cloth weaving, as well as introducing adequate quality control to assist companies producing the commercial yarns. Thanks to the recent introduction by the Federal Government of the People's Bank, which Akwete and other small scale weavers should be encouraged to utilise the facilities of the bank.

There should be national and state show rooms of traditional woven fabrics and fashion-clothings. This should form a recognised unit in the country's museums. The unit should provide information for research purposes and attract tourism.

APPENDIX A1

QUESTIONNAIRE DESIGNED TO CONFIRM THE PRESENT STATE OF THE AKWETE CLOTH BY MEASUREMENT OF ATTITUDES AND METHODS OF PRODUCTION BY THE CRAFTWOMEN

1. Tribe:
   - (a) Igbo from Akwete town
   - (b) Igbo not from Akwete
   - (c) Other tribe but Nigerian
   - (c) None Nigerian but African

2. Sex:
   - (a) Male
   - (b) Female

3. Age:
   - (a) Youth 12 - 19 years
   - (b) Adult 20 - 40 years
   - (c) Elder 41 - 70 and above

4. Education:
   - (a) No education
   - (b) Basic education
   - (c) Secondary education
   - (d) Post secondary

5. Marital Status:
   - (a) Married
   - (b) Single
   - (c) Divorce

6. Occupation:
   - (a) Weaving
   - (b) Dyeing
   - (c) Trading

7. What is your time allocation to weaving?
   - (a) Full time
   - (b) Part time

   If you perform other job, what is the nature of the work? _____

8. How long have you been involved in weaving?_____

9. Do you work alone or with apprentice?_____

10. How did you learn the craft of Akwete weaving?

    (a) Inherited
    (b) Learned

11. From whom did you:

    (a) Inherit the craft? _____
    (b) Learn the craft? _____

12. What are the sources of your Motifs? _____

    _____

13. What types of motifs do you produce?

    (a) Traditional motifs
    (b) Conventional motifs
    (c) a and b combined.

14. What types of materials do you use? _____

    _____

15. What types of loom do you use?

    (a) Vertical loom
    (b) Horizontal loom
    (c) Both a and b looms

16. If any motif, material or equipment has been added or excluded from the old or new ones since 1983, name them: _____

    _____

    _____

17. Does any motif, material or equipment need to be improved?

    (a) Equipment
    (b) Motif, ypattern
    (c) Yarn and dyes
    (d) All of the above

18. Where do you buy your loom equipment?

    (a) From local market
    (b) Manufactured by local producer on order
    (c) Both a and b.

19. In comparison with imported materials and equipment, do you think locally produced material and equipment are:

i) (a) Preferred
   (b) Not preferred

ii) (a) Cheaper
   (b) Highly expensive

iii) (a) Easier to obtain/procure
   (b) More difficult to get.

20. Name the steps in technique you use in production of Akwete weaves:

_____

_____

21. What is the average time needed to produce:

(a) A simple pattern Akwete cloth_____, and

(b) Complex pattern cloth _____

22. How many Akwete weave types are there?

(a) Traditional Akwete type only, made from traditional yarns.

(b) Contemporary Akwete type only, derived from imported yarns and dyes.

(c) Another type of Akwete woven piece from both traditional and contemporary yarns and dyes.

(d) Both a and b types only

23. Do you weave any Akwete cloth from locally made yarns and dyes only?

(a) Yes

(b) No

24. If so, where do you find your locally spun - , cotton and dyes?

(a) From Akwete local market
(b) From neighbouring towns
(c) Personally produced yarns and dyes
(d) All of the above

25. If Yes, how many traditional Akwete cloth do you produce in a year?

(a) Many, 100 - 200 and above
(b) Moderate, 30 - 50
(c) Few, 5 - 20
(d) None, 0.

26. Are you only producing contemporary Akwete, derived from Commercial yarns and dyes?

(a) Yes
(b) No

27. If Yes, what quantity do you produce?

(a) Large quantity, 100 - 200 above
(b) Moderate, 30 - 50
(c) Few, 5 - 20
(d) None, 0

28. Which of these Akwete types can be identified as traditional Akwete?

(a) George cloth
(b) Popo cloth
(c) Akwete cloth
(d) Other types not included in the questionnaire _____

29. Is there any existing difference in the production of george cloth, popo cloth, and Akwete cloth?

(a) Yes
(b) No

30. If yes, in which cloth does the difference exist?

(a) George cloth
(b) Popo cloth
(c) Akwete cloth
(d) All of the above

31. If so, in what area of production is the difference occuring?

(a) In setting the loom
(b) In warping
(c) In creating motif
(d) In patterning tools

32. Which category of Akwete cloth is more densely packed/woven and heavier

(a) Traditional Akwete group
(b) Contemporary Akwete group
(c) Both a and b
(d) None of these

33. Are the yarn counts the same in number for both the warp and weft?

(a) Yes
(b) No

34. If No, which has less number of yarn count ?

(a) Warp yarn
(b) Weft yarn

35. Give reason for the variation in your count:

_____

36. Which group of Akwete cloth has poor colour fastness to washing and drying and therefore less difficult to maintain on home care method?

(a) Traditional Akwete cloth
(b) Contemporary Akwete
(c) None of these
(d) All of the above

37. Does Akwete cloth shrink after washing?

(a) Yes
(b) No

38. If so which of the Akwete group is subject to shrinkage?

(a) Traditional Akwete
(b) Contemporary Akwete
(c) Both a and b
(d) None of the above.

39. What suggestion can you provide on how to take care and maintain Akwete cloth?

(a) Home washing with mild soap
(b) Dry cleaning
(c) Washerman care and maintenance
(d) None of the above.

40. How do you sell your cloth?

(a) Direct to consumers
(b) Through middlemen/association show room
(c) On order by client
(d) All of the above.

41. Where do you sell them?

(a) At local market
(b) Home
(c) Large cities
(d) All of the above.

42. Which cloth yields higher return on sale?

(a) Cloth produced from local materials
(b) Cloth produced from commercial material
(c) Cloth produced in both a and b.

43. What is the highest amount you have ever received for a specific cloth?

(a) Price ₦ _____
(b) Type of pattern _____

44. What is the lowest price you have ever received?

(a) Price ₦_____

(b) Type of pattern _____

45. Who are your clients?

(a) Nigerians

(b) Nigerians and Foreigners

(c) All of the above.

46. Ages of your customers:

(a) 21 - 32 years

(b) 33 - 50 years

(c) All of the above

47. What is the status of your customers?

(a) Affluent men and women

(b) Middle class

(c) Low income group

(c) All of the above

48. Do you like the idea of introducing new method of using Akwete cloth?

(a) Yes

(b) No

Give reason if you object to the attempt.

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49. Would you accept the effort of designing garment from Akwete cloth to serve other purpose such as:

(a) Cold weather garment?

(b) Tailored dresses?

(b) Suits and trousers?

(c) All of the above.

50. Do you think that tailoring Akwete cloth into harmattan garment will:

(a) Open new avenue of demand for your cloth production?

(b) Put you out of job?

(c) Make people stop using Akwete as wrapper?

(d) All of the above.

51. What is the direction of movement for the traditional and contemporary Akwete weave production?

_____

52. What other traditional cloth do you think can assist Akwete Weave for the purpose of variety in designing cold weather garment?

(a) Use Aso-Oke cloth
(b) Use Okene cloth
(c) Use Kente cloth
(d) Use Nupe cloth
(e) All of the above

53. What design technique can be used during weaving in order to produce heavier Akwete cloth for harmattan garment?

(a) Increase number of fibre during twisting and spinning.
(b) Double the commercial yarn during weaving.
(c) Pack the warp yarns tight during weaving.
(d) Additional structural weave design
(e) All of the above.

54. In what area do you need outside aid either in form of finance, material or equipment supply for the cloth production?

_____

_____