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CENTRES IN EBONYI AND ENUGU STATES OF NIGERIA.**

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# QUANTITY AND UTILIZATION OF TAILORING FABRIC WASTES OUTPUT IN TAILORING SKILL ACQUISITION CENTRES IN EBONYI AND ENUGU STATES OF NIGERIA.

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## ABSTRACT

This study investigated the quantity and utilization of tailoring fabric wastes output in tailoring skill acquisition centres in Ebonyi and Enugu states. The area of study was in Ebonyi and Enugu state with 13 and 17 local government area respectively. The number of identified tailoring skill acquisition centres in the area of study is 196. Multistage sampling procedure was used to get sample size of 40 tailoring skill acquisition centres in the first stage, 12 local government areas were selected in Ebonyi and Enugu states using balloting with replacement, five in Ebonyi state and seven in Enugu state. In the second stage, 40 tailoring skill acquisition centres were selected from the 12 selected local government areas in the first stage, using balloting with replacement. The researchers and research assistants weighed the fabric wastes generated in the 40 tailoring skill acquisition centres in the area of study. Findings showed that the quantity of tailoring fabric wastes generated weekly in tailoring skill acquisition centres in Ebonyi state weighed 275.8kg while 572.5kg are generated weekly in Enugu state. A minimum of 10.4kg and 15.3kg of the wastes are generated weekly in Ebonyi and Enugu states respectively. Therefore reasonable quantity of tailoring fabric wastes are generated in Ebonyi and Enugu states. The state and the local government authorities of Ebonyi and Enugu states should construct special dumping centres for tailoring fabric wastes for further use.

**KEYWORDS:** Fabrics, Skill acquisition-Centres, Waste generation, Quantity, Tailoring, Utilization.

## 1. INTRODUCTION

Fabrics are the product of different fibres with a host of special finishes (David 2007). Fabrics are flexible materials that are made by a network of natural or artificial fibres and yarns. It is produced by knitting, weaving, and braiding, twisting or felting fibres. Wastes are materials that are prime products which the generator has no further use in term of her/his purpose of production, transformation or consumption and of which the generator wants to discard (Carlson and Rech 2006). Wastes include all items that people no longer have use for which they either intend to get rid of or have already discarded. Waste is discarded material which has no consumer value to the person abandoning it. Fabric waste is the fabric material thrown away or set aside as worthless in textile industries and garment production centres. Pietra (2005) noted that fabric wastes are the scraps of clothes generated in textile industries, commercial centres and at home. They are the cut-offs, rejected Wears and out dated clothing from fabric mill, garment production centres and family clothing. Fabric wastes are thus categorized into; household fabric waste, industrial fabric waste and fabric wastes from commercial houses (Timmons and Spinelli 2009). Household fabric wastes are clothing such as dresses, shirts, trousers, hats, shoes and other clothing accessories which are thrown away by individuals. The clothings are discarded for various reasons. For instance, fast fashion makes people especially young girls and boys always prefer and wear latest style. The old clothing are rejected and discarded in household bin. Balter (2000) noted that the amount of household fabric waste is increasing every year due to fast fashion. He further maintained that 3% by weight of the content of household bin in America and other developed countries is household fabric wastes. Globalization also contributes immensely for the large generation of household fabric wastes. For instance, T-shirts made in developed countries to promote a particular event such as football team, companies are worn by youths in Africa countries within the next one week of production (Pietra 2005). Again, frequent change of fashion in vogue contributes in generation of household fabric wastes. Young people especially girls believe in new styles of dresses. Pietra (2005) opined that stylistic norms promote obsolescence of clothing to most people particularly the adolescents.

Industrial fabric waste is referred to as post-industrial fabric waste. The fabric wastes come in form of fibres, yarns and scraps of cloths of various types and colours. Textile industries generate both natural and man-made or synthetic fibres and fabrics. The fabric wastes include; varieties of woolen fibres and fabrics, cotton fibres, silk waste, assorted types of linen waste, polyester wastes, acrylic wastes, viscose waste among others (Howard 2008). The post-industrial fabric wastes are sorted and graded by highly skilled and experienced workers in the recycling centres. Fabric wastes from garment production centres are scraps of fabric. The wastes are generated by fashion designers during cutting and sewing of garments. The fabric wastes comprise all types of fibres-natural and man-made. According to U.S. Environmental Agency in Page and Markey (2007), the United States of America generated 11.9 million tonnes of fabric wastes in 2007 and 12.5 million tonnes in 2008. Mc Elevee (2009) observed that Sri Lanka fabric waste company in Pakistan collects 750 tonnes every year. These wastes have been used by some of the more innovative merchants and entrepreneurs for a wide range of other purposes. Prendergast and McGregor (2007) observed that nearly 70% of fabric wastes put into clothing banks are recycled and for various purposes such as making of dresses, wiping clothes, cloth bags among others. Nwankwo and Eluwa (2009) also noted that fabric wastes are used to produce rag rugs, flower vases and patchworks.

The tailoring fabric wastes generated in Ebonyi and Enugu states have not been quantified in terms of weight and utility. The wastes are just burnt causing environmental hazard and pollution. The study therefore sought to assess the number of kilograms of tailoring fabric wastes generated in Ebonyi and Enugu states

## **2. Purpose of the Study:**

The main purpose of the study is to determine the quantity of tailoring fabric wastes generated in Ebonyi and Enugu states of Nigeria and its possible utility, specifically, the study sought to identify the quantity of tailoring fabric wastes in kilograms generated in each tailoring skill acquisition centre in Ebonyi and Enugu states and to ascertain its utility option of turning the wastes to wealth.

### **2.1 Research Question**

What is the quantity of tailoring fabric wastes generated in tailoring skill acquisition centres in Ebonyi and Enugu states?

### **2.2 Hypothesis**

There is no significant difference between the mean weight of the tailoring fabric waste output in Ebonyi and Enugu states.

## **3. Significance of the Study**

The findings of the study will create awareness of the quantity of tailoring fabric wastes output in Ebonyi and Enugu states of Nigeria. The fabric wastes could be useful to the unemployed youths who will use the wastes as a source of income. Youths can utilize the tailoring fabric wastes to produce various products such as cloth bags, flower vases, patchwork materials among others through entrepreneurship skill venture. Teachers in secondary schools and lecturers in higher institutions in Ebonyi and Enugu states could utilize the tailoring fabric wastes during entrepreneurship practical exercise.

Moreover, the tailoring fabric wastes will no longer constitute environmental hazard such as blockage of gutter and flood. The wastes could be turned to wealth.

## **4. Methodology**

The study utilized descriptive survey research design. Eze (2004) described survey research design as one in which a group of people is studied by collecting and analyzing data from a few people considered to be representative of the entire population.

### **4.1 Area of the Study**

The research was carried out in Ebonyi and Enugu states. Ebonyi state is made up of 13 local government areas while Enugu state is made up of 17 local government areas with a population of 2.3 million and 3.2 million respectively as contained in National Population Census (2006). The two states are highly populated with people who are engaged in tailoring business

## 4.2 Population of the Study

The population of the study consists of all the 196 identified tailoring skill acquisition centres in Ebonyi and Enugu states (National Directorate of Employment and Co-operate Affairs Commission Officer Abuja and Enugu states (2010/2011)).

## 4.3 Sample and Sampling Technique

Multistage sampling procedure was utilized to arrive at a sample size of 40 tailoring skill acquisition centres in Ebonyi and Enugu states. The first stage involved a simple random sampling of five local government areas in Ebonyi state and seven local government areas in Enugu state using balloting with replacement. The second stage involved a simple random sampling of 16 tailoring skill acquisition centres from the five selected local government areas in Ebonyi state and 24 tailoring skill acquisition centres from the seven selected local government areas in Enugu state in the first stage, using balloting with replacement. This process yielded a total of 40 tailoring skill acquisition centres out of 196 identified tailoring skill acquisition centres in the area of the study. The 40 tailoring skill acquisition centres is sample size for the study.

## 5. Instrument for Data Collection

The researchers weighed and recorded the tailoring fabric wastes output from the 40 selected tailoring skill acquisition centres. The quantity generated in each tailoring acquisition centres was recorded every day for one week.

## 6. Data Collection and Analysis

The quantity of tailoring fabric wastes generated in the tailoring skill acquisition centres in Ebonyi and Enugu states was ascertained. t-test statistics was used to test the hypothesis at 0.05 level of significance.

## 7. Findings of the Study

- ♣ The quantity of tailoring fabric wastes generated weekly in tailoring skill acquisition centres in Ebonyi weighed 275.8kg while 572.5kg of tailoring fabric wastes are generated in Enugu state weekly.
- ♣ There is significant difference between the quantity of tailoring fabric wastes in Ebonyi and Enugu states of Nigeria

**Table 1: Quantity of Tailoring Fabric Wastes in kilograms Generated in Tailoring Skill Acquisition Centres in Ebonyi and Enugu States (N = 40)**

<i>Ebonyi State</i>		<i>Enugu State</i>	
Tailoring skills acquisition centres	Quantity of fabric scraps generated per week (275.8kg)	Tailoring skills acquisition centres	Quantity of fabric scraps generated per week (532.5kg)
1	22.5	1	24.2
2	24.0	2	19.5
3	21.0	3	21.8
4	18.0	4	18.2
5	22.0	5	24.0
6	12.0	6	28.0

7	14.5	7	26.5
8	20.7	8	20.0
9	12.4	9	22.0
10	21.4	10	21.5
11	16.5	11	27.7
12	14.0	12	20.5
13	10.4	13	22.0
14	11.4	14	19.0
15	14.5	15	18.0
16	20.5	16	15.3
<b>Total</b>	<b>275.8kg</b>	17	15.4
		18	28.5
		19	28.0
		20	24.0
		21	22.0
		22	18.2
		23	24.2
		24	20.0
		<b>Total</b>	<b>523.5kg</b>

State	Max. quantity Generated in skill acquisition centres per week (kg)	Min. quantity Generated in skill acquisition centres per week (kg)	Overall quantity (kg)	$\bar{x}$	SD
Ebonyi	24.0kg	10.4	275.8	17.24	4.53
Enugu	28.5kg	15.3	523.5	22.02	2.87

Table 1 reveals that the minimum quantity of tailoring fabric scraps generated in tailoring skill acquisition centres in the tailoring skill acquisition centres in Ebonyi and Enugu States per week are 10.4kg and 15.3kg respectively while the maximum quantity generated in tailoring skill acquisition centres in the two states is 24.0kg in Ebonyi and 28.5kg in Enugu. The mean quantity of the tailoring fabric scraps generated in shops in Ebonyi and Enugu states is 17.24 and 22.02 respectively. The overall quantity of tailoring fabric scraps generated in Ebonyi and Enugu States weekly are 275.8kg and 523.5kg respectively.

## 7.1 Hypothesis Testing

**Table 2: t-test Analysis on Quantity of Tailoring Fabric Wastes Generated in Skill Acquisition Centres in Ebonyi and Enugu States (N = 40)**

Location	N	$\bar{x}$	SD	Df	t-calculated	t-critical	Remarks
Ebonyi	16	17.24	4.53				
				38	3.577	1.96	S
Enugu	24	22.02	2.87				

S = Significant a  $p < 0.05$

DF = Degree of freedom ;  $\bar{x}$  = Mean; SD = Standard Deviation

Table 8 showed that t-calculated 3.577 for the quantity of tailoring fabric scraps generated in Ebonyi and Enugu states is greater than the t-critical of 1.96. Since the t-calculated is greater than the t-critical value, the null hypothesis is rejected. This implies that there is significant difference in the mean weight of tailoring fabric scraps output in Ebonyi and Enugu States.

## 8. Discussion

The findings indicated that a maximum quantity of 24kg of tailoring fabric wastes are generated in a tailoring skill acquisition centres in Ebonyi state weekly while a maximum quantity of 28.5kg of tailoring fabric wastes are generated in a tailoring skill acquisition centres in Enugu state weekly. The mean value of the waste in Ebonyi and Enugu states are 17.24kg and 22.2kg respectively. The total quantity of the fabric waste in the two states is 799.3kg every week. This quantity of tailoring fabric wastes is of reasonable size and could be utilized to produce useful products instead of allowing them to constitute environmental hazards. Tammie (2006) noted that about one hundred (100) tonnes of fabric wastes are produced every week in Huddles Field in America. He further noted that the fabric wastes are used to produce valuable crafts for home use. The tailoring fabric generated in the two states constitute environmental hazard in the states. The study was in line with Partiff (2002) who observed that more than one million tonnes of fabric are thrown away as wastes every year in United State of America. The fabric wastes according to Partiff come from household, industries and garment production centres. Moreover salvation Army organization in united kingdom (UK) in line with the findings has 200 banks for the collection of fabric wastes nation wide and each bank collects about six tonnes of fabric waste per year (Beverly 2010). Sri Lanks fabric Waste Company in Pakistan collects 5,000 tonnes of cotton waste monthly, 250 tonnes of waste skein polyester and 20 tonnes of blended fabric wastes per year (McElwee 2005).

The findings also revealed that the quantity of tailoring fabric waste output in Ebonyi and Enugu states differ significantly. This may be due to difference in population density in Ebonyi and Enugu state. Information from the offices of National Directorate of Employment and co-operate Affairs commission in Ebonyi and Enugu states showed that the number of tailoring skill acquisition centres in Enugu state is more in number than the skill acquisition centres in Ebonyi states. David and Lionel (2009) noted that the population of a society determines the quantity of wastes generated in the area.

## 9. Conclusion

Based on the findings of the study the following conclusions were drawn. Reasonable quantity of tailoring fabric wastes were generated in the number of garment production skill acquisition centres in Ebonyi and Enugu states. These quantities could be utilized to engage the youths in productive small handcraft enterprise. The number of garment production centres in Enugu and Ebonyi states is not enough to impact tailoring skills effectively to youths in the study area and for the production of more tailoring fabric wastes.



#### 10. Recommendation

Based on the findings the following recommendations are made:

1. The government of Ebonyi and Enugu states should construct organized special centres for the dumping of tailoring fabric wastes in all the local government area in the states. This will enable interested individuals to utilize and turn the tailoring fabric wastes to wealth.
2. Government and non-governmental organizations should establish garment production centres.



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