

Production Of Interior Decoration Items Using Jute Fibre Crocheting For Sustainable Entrepreneurial Innovation

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Abstract—The study focuses on the production of some selected interior decoration items with jute fibre using crocheting method. It is also aimed at investigating the sustainable entrepreneurial innovation in Jute fibre crocheting in Ekiti State. In order to achieve this, experimental design was used. Jute fibre crocheting is one of the craft that has many advantages which has not been explored in Ekiti state. The study revealed that crocheting interior decoration items using jute is not practiced in the state but only done with wool to produce baby accessories and wears. Crocheting has many advantages apart from creating more income to the person practicing it; it also has some health benefit especially for the arthritis patient which enables them to exercise their fingers. The materials sourced locally was jute sacks and were processed into yarns by loosening the sacks, bleached to remove impurities and dyed into different colours using vat dye. From the report of findings done on this research, it was deduced that most people in Ekiti State do not know the source jute and jute sacks can be reused as yarns for crocheting. The study has also revealed the potential of planting and using jute to crochet interior decoration items. The study also recommended that Government can encourage other States who are co-owners of the moribund Odua Textiles to resuscitate it to process jute fibre. Therefore, it will be a great opportunity for Nigeria to access the technology necessary to process jute fibres in order to produce quality home-furnishing products and handicrafts and also to encourage farmers to cultivate Jute for its edible leaves and the fibre procured from the bast or skin of the plants stem because it's the cheapest vegetable fibre and can be started with a low capital investment and with a lower cost.

Keywords—*entrepreneurial, innovation, Jute fibre, crocheting, interior decoration.*

Introduction

Jute is a truly versatile fibre gifted to man by nature. It has properties of fibres which include elasticity, luster, long staple lengths, high tensile strength, moderate heat, fire resistance among others.

It is a biodegradable and eco-friendly. According to Mohammad and Mohammad (2012), it has many advantages over synthetic fibres. It protects the environment and maintains the ecological balance. Jute species, (*Corchoruscapsularis* & *Corchorusolitorius*), Kenaf (*Hibiscus cannabinus*) and Roselle (*H. sabdariffa varAltissima*) are vegetable fibres plants next to cotton in importance but the cheapest. The fibre finds its use in the producing as well as in consuming countries mainly in the production of technical textile which include agricultural, industrial, commercial and domestic areas. It is often referred to as 'The Golden Fibre' because of its colour. (Bhaduri, Debnath & Satapathy, 2010).

The cultivation and processing of jute is labour intensive, therefore provides a livelihood and an important source of food security for many families in the study area. It is a versatile, eco-friendly and economical fibre. Technological advancement and continuous research findings have changed the profile of jute fibres. This has made Jute fibres abundantly available with ample of applications in the manufacture of products for diverse use. Innovative utilization of jute fibres for manufacture of market worthy products has opened up large entrepreneurial opportunities. (Sur & Aditya, 2008).

Crocheting, an important needle craft used as edgings for table cloths, petticoats and collars which was very popular in the early part of 20th century still remains as part of craft being practised today. It is a popular craft in Ekiti State, Nigeria mostly for production of baby accessories like cap, shawl, booties, cardigan, sandals and shoes. In Ekiti State, jute fibre is mostly used for sacks for packaging dry cocoa seeds. Apart from sisal and kenaf, jute is also one of the materials used for Plaster of Paris (POP) board.

Jute fibre crocheting is one of the methods of creating fabric by looping thread with hooked needle using jute fibre. Jute fibre is an important annual fibre crop of India next to Cotton which is obtained from the stem of the plant. It is grown commercially in Bangladesh, Thailand, Myanmar, Nepal, China, Taiwan, Vietnam, Cambodia, Brazil and some other

countries. Bangladesh used to enjoy almost a monopoly of this fibre commercially (Das, 2012).

Home accessories made with crochets are unique and beautiful due to the extreme versatility of crochets which made it a popular technique. Crocheted Jute fibres find use in sophisticated fields like decorative and furnishing materials such as lamp shades, wall covers, curtains, upholsteries and rugs. The idea of decorating home which is a wide area and falls into different aspect has always been an ancient practice in Nigeria. Earlier, jute was mostly used for agricultural produce bags but is now used for decorative items for home decoration purpose due to the fact that it is 100% bio-degradable and recyclable and thus environmentally friendly. It helps in cleaning the air because of its ability to absorb carbon dioxide. It absorbs carbon dioxide and convert it to oxygen during growth (Roberts, 2008). Apart from using it to make cloth for wrapping bales of raw cotton, sacks and coarse cloth, it is also woven into curtains, chair coverings, carpets, area rugs hessian cloth and fabrics used in the production of other items.

These days, jute fibre itself is used in the production of souvenirs bags. Local jute fibre has been used to manufacture packaging materials like hessian, sacks, ropes, twines, home textiles as carpet, carpet backing cloth and home furnishing like centre rugs, curtains, lamp shades, wall décor, sofas, chairs, benches, stools and for many items (Shahid, 2016). Items made from jute are appealing, attractive and perfect to decorate nooks of homes, offices, restaurants and hotels. Jute fibre could be dyed into various shades of colour. Jute fibre is locally available and biodegradable which makes it a viable alternative to synthetic fibre.

According to Oloruntoba, Indagawa, Jolaoso & Ibrahim (2015), jute has been in use in Nigeria since the 1960s for packaging agricultural produce like cocoa, groundnut, coffee, cotton and onions for local consumption and export. Crocheting with Jute fibre is not popular as an effective medium for making items of interior decoration in Ekiti State. Jute is planted for its leaves which are consumed as soup known as (*ewedu*) in Yoruba land, (*Rama*) in Northern part of Nigeria but not common in the Eastern part of Nigeria. Moving round shops that sell interior decoration items, the crochet works seen around and with the review of works done on jute, it was realized that the use of crocheted jute fibre for interior decoration has not been explored in the State even when crocheting is being practiced for many years. Most people are not aware of the source of jute which is the "*ewedu*" they consumed as soup.

In the area of crafts, crocheting is mostly done with wool despite many advantages of jute fibres which include its lack of susceptibility to water damage thereby making it suitable and perfect for outdoor surroundings and in home textile. There is need to explore crocheting with jute fibre to produce some soft furnishing items of interior decoration to educate on

the importance of jute fibre in the craft industry and advocate for the use of jute due to its biodegradability, recyclable and environmentally friendly nature.

Materials and Method

Jute yarns were sourced from Ekiti State and also from available market. The jute yarns obtained from the state were old jute sacks which were loosened and bleached using *hypo* bleach then dyed using vat dyes. Vat dyes comprises of dyes of different colours, sodium hydroxide also known as caustic soda (NaOH) which open up the pores of the jute fibres for the dyes to penetrate and sodium hydrosulphite which fixed the colour of the dyes permanently on the jute fibre. Other materials that were utilized include crochet hooks which is the first tool required it comes in different sizes and determines patterns, measuring tools, scissors for cutting yarns and trimmings, sewing materials, and fibres for filling. The jute fibres were crocheted after studying different techniques and processes of crocheting using the basic stitches and the combination of all the basic stitches which includes the chain stitches, half double crochet, double crochet, and treble crochet stitches to produce centre rug, pouf ottomans and foot mats.

Different Techniques and Processes of Crocheting Using Jute Fibres

There are two ways of holding the crochet pins which are:

Pencil Method

Knife Method

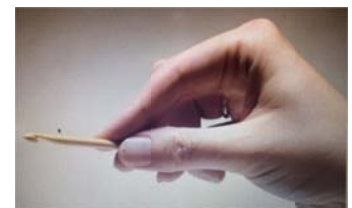


Plate:1

Source: Bradleym Deborah (2006)

Plate:2

Source: Bradley Deborah (2006)

There are two ways of holding the yarn which are:

Forefinger Method

Middle Finger Method



Plate:3
Bradley Deborah (2006)

Plate:4
Bradley Deborah (2006)

Production of Some Interior Decoration Items (Centre Rug, Foot Mats, Pouf Ottoman).

After loosening, the yarns were bleached and later dyed into different colours. The jute yarns were sorted into sizes since they were not of even plies unlike the imported processed yarns that could be used directly since they were of even 3 plies. Jute yarns were crocheted with crochet pin using some of the identified

commonly used crocheting methods. Different colours were used to show that jute can come in varieties of colours because when people hear jute, what comes to mind is the original dull light brown colour.



Plate: 5
Original dull light brown colour



Plate: 6
Imported jute with varieties of colours

Difference between Locally Sourced Jute Yarn and the Imported.

Plate 5 shows the jute yarn sourced locally from the study area. It is made of single ply. Ply is the strand of yarn. It could be in 2, 3, 4, 5 and so on. It depends on how thick it is required. But for the purpose of this study a single ply yarn was used. The yarn was doubled at some points during the course of weaving for the purpose of even sizes. The yarn is a bit stronger and less stretchy to have good abrasion quality. Its colour remains dull light brown since it is meant for packaging agricultural products. On the other hand, plate 6 shows the imported jute yarns sourced from an online store which is made of three (3 plies) and already dyed in different colours and packaged for crocheting which involves the Interloping of yarns. The yarns are a bit stretchy than the ones sourced locally and it is less tedious to work with because it has no loose fibres.

Processing of Materials

Jute sack sourced from Ekiti state is being loosened, bleached and dyed



Plate: 7
Bleaching of the yarns
Source: Field Work, 2017

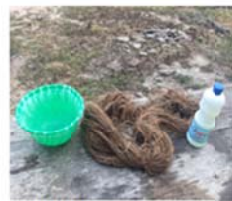


Plate:8
Loosening of the jute sack
Source: Field Work, 2017

Bleaching Process



Plate:9

Source: Field Work, 2017

Dyeing Process



Plate:10

Source: Field Work, 2017

Dyeing of the jute fibres after bleaching. The researcher made use of vat dye in this stage since the yarn spun out of a natural fibre.



Plate:11

Wet loosened, bleached and dyed jute fibres.

Source: Field Work, 2017



Plate: 12

Dry loosened, bleached and dyed jute fibres

Source: Field Work, 2017

Results and Discussion

Sources and Availability of Jute fibre in Ekiti State, Nigeria

Studies conducted in study area shows that the users of jute sacks/bags do not know the type and sources of sack used for production of jute bags. All they know is that the sacks are imported into the country. Further investigation reviewed that that the

two species of jute (*Corchoruscapsularis*) and tossa jute (*Corchorusolitorius*) are planted and the leave is consumed as soup known as *ewedu* in the study area while the stem which is the source of the fibres that are used for the production of jute sacks are thrown away.

Techniques and Process of Crocheting Using Jute Fibres

During the study, different techniques and process of crocheting, it was realised that there are two methods of holding the crochet pin during crocheting which are forefinger method and middle finger method, Bradley (2006). There are different stitches which are chain stitches, which all other stitches are built on followed by other types of stiches which are single, double, half treble, triple treble stitches and so on. Then methods available are round, checker board, picot, shell, popcorn, basket and so on.

The researcher decided to use the chain, single, double, seed, checker board, picot and shell stiches to produce the centre rug, double, picot and shell stiches to produce the foot mats and double stiches to produce the pouf mostly in round method technique because it was easy to achieve for a learner after studying the techniques. Apart from the health benefit of exercising the fingers which is good for arthritis patients, it relaxes and gives the person doing the crocheting some satisfaction of seeing produced works (Vercillo2014). It was also deduced that using jute handicrafts not only help our environment but will also provide employment to lots of farmers who plants the jute, the artisans and traders who are involved in making different types of jute crafts. It was also realised that crocheting requires little capital in starting up. Crocheted jute interior decorative items occupy a unique position in decorative art medium and interior decorating idea.

Production of Selected Items of Interior Decoration using Crocheting Method

Following the experimentation of using jute fibre to crochet some interior decoration items, it was realised that old used jute sacks used for packaging agricultural products can be innovatively recycled and reused for creating interior decoration items. Gon (2012) opines that jute has high strength and good insulation properties that will not cause problems like the synthetic fibre in waste management cycles. The bleached yarns were later dyed into different colours using vat dyes. Textile materials (natural and synthetic) used to be coloured for value addition (Ashis & Adwaita, 2011).

The Centre Rug

The jute yarns used for the centre rug comprise of the ones obtained from an available market and the one obtained from loosened old jute sag. Round method was used by chaining a ring on which the crochet were built on. The technique used in the production of the centre rug was round method

comprising of the seed stitch which is an alternating single and double crochet stitches. It gives a closed stitch, which resembles a knitted seed stitch. Checker board stitches were also used for the whole body while the combination of Picot and Shell stitches were used to complete the edges to serve as trimmings as shown below in plates 3.7.1 and 3.7.2. Shades of green were used for the centre rug to depict the eco-friendly nature of jute.



Plate:13

Seed stitch checker board, picot and shell stitches were used for the work

Source: Field Work, 2017

Foot Mats

Two foot mats were made. One with already made yarns bought from an available market and the other one with loosened fibre from old jute sack. They were crocheted using round and oval method using double stitches.



Plate:14

Double and picot stitches were used to for the work

Source: Field Work, 2017

The Pouf Ottoman

The yarns used for the pouf ottoman was bought from an available market and the technique used was round method including double stitches. Fibres used for filling were sourced locally from the study area.



Plate:15

Completed Work

After filling with fibre. Double stitches was used

Source: Field Work, 2017.

Conclusion

A beautiful home is a social force of great value a pleasant environment. Today crochet remains an important needle art as it swings in and out of fashion prominence. One of the reasons it continues to be popular is because it requires little equipment and time. With different kinds and textures of yarn available, one can create many beautiful and useful crocheted items for wardrobes and homes.

Apart from being eco-friendly, the jute crafts gives natural and soothing look. Jute plant is also very good for the soil as well as having little need for fertilisers and pesticides. It enriches the soil. As these plants grow fast, they are often used in crop rotation. The leaves and roots left after harvest enrich the soil with micronutrients, maintaining soil. When used as a geo-textile, it puts nutrients back in the soil when it decomposes (Roberts, 2013). Jute is one of the most renewable natural fibres in terms of volume next to cotton. In interior decorating industry, jute handicrafts are finding its way at a great pace and its being viewed as the most preferred fibres due to its many advantages. Using jute handicrafts not only help our environment but also provide employment to lot of farmers who planted them, artisans and traders who are involved in making different types of jute crafts. The eco-friendly characteristics are keys for the future jute market. The inherent attributes of jute can fulfil the demand of green products. In the ambience of climate change threats with corresponding demand for green and recyclable products, jute-made bags, jute handbags, jute home decorative items, foot wear and jute coverings provide sustainability solutions and open new opportunities for the jute market (SEA-LAC Trade Centre, 2011). An article in the blueprint newspaper by Bashir Wali published on the 16th of March, 2017 also mentioned that The Nigerian Export – Import Bank (NEXIM) have commenced discussions with major investors to resuscitate and commence the production of jute bags in the country. When this company starts production, there will be diversification

giving room for the production of jute fibres, yarns and fabric for other uses.

Recommendations

Based on the findings from the crocheting of jute fibres to produce interior decoration items, the following recommendations are made;

The prospect of jute at the global level is promising because of the increasing demand of environment friendly products. Nigerian government should tap the opportunities inherent in the sector and share in the global market of jute fibres for sustainable economic growth.

Efforts should be made by the Nigerian Government to promote planting of jute and provide needed infrastructure since it is one of the factors that made the jute factories in Nigeria to close down in the 1960s.

Vocational and crafts centres should be educated and encouraged to practice crocheting using jute fibre and there should be increase in consumer awareness of crocheted products from jute fibre and its eco-friendly nature.

Marketing and promotion of jute has been a major problem. Government and other stakeholders should come forward and take adequate steps in this direction like highlighting its eco-friendly and biodegradable characteristics.

References

- Ashis, K. S. & Adwaita, K. (2011). Dyeing of Textiles with Natural Dyes, Natural Dyes, Dr. Emriye Akcakoca Kumbasar (Ed.), ISBN: 978-953-307-783-3, In Tech, Available from: <http://www.intechopen.com/books/natural-dyes/dyeing-of-textiles-with-natural-dyes>.
- Bashir, W. (2017). "Need for Nigeria to thrive on export diversification" published in the Blueprint newspaper on the 16th of March 2017
- Bhaduri, S.K.; Debnath, S. & Satapathy, K. K. (2010). "Technologies for quality improvement and diversification of jute". *Indian Farming*, 59(12), 43-45.
- Bradley, D. (2006). Simply Knitting© Future Publishing Ltd
- Businessnews.com (2016). Scarcity of packaging materials threatens non-oil exports
- Das, P.C. (2012). Jute Production Technology. WSIC EBooks Ltd. Edition
- Gon, D., Kousik Das, Palash Paul, Subhankar Maity (2012). Jute Composites as Wood Substitute. *International Journal of Textile Science* 2012, 1(6), 84.
- Islam, M. (2013). Biochemistry, Medicinal and Food values of Jute S(*Corchoruscapsularis* L. and *C. olitorius* L.)leaf: A Review. *International Journal of Enhanced Research in Science Technology &*

Engineering, ISSN: 2319-7463. Vol. 2 Issue 11, pp: (35-44),

Islam, M. S. & Alauddin, M. (2012) World Production of Jute: A Comparative Analysis of Bangladesh. *International Journal of Management and Business studies*, 2 (1), 014-022.

Mohammad, S. I. & Mohammad, A. (2012). *International Journal of Management and Business Studies*, 2 (1), 014-022, January 2012 © International Scholars Journals (<http://internationalscholarsjournals.org>)

Oloruntoba, K.D., Indagawa, R. A., Jolaoso, M.A. & Ibrahim, H.D. (2015). "Strategies for Resuscitating the Production of Jute Sacks in Nigeria", *Science Journal of Agricultural Research & Management*, Volume 2015, Article ID sjarm-265,7 Pages.

Roberts, (2008). "Jute; Wild Fibres-Natural fibres for spinning & felting"© 2008-16 Wild Fibres.

Shahid, M.A. (2006). Mahabubuzzaman, A.K.M., Ahmed, F. & Ali, A. (2016). Investigation of the Physical Properties of Jute Blended Yarn Using a Novel Approach in Spinning Process. *Journal of Textile Science and Technology*, 2, 1-6.

Sur, D. & Aditya, R.N.(2008).Global situation of jute industries and future road map. Jute and allied fibres production, utilization and marketing, Indian Fibre Society (Eastern Region).

Vercillo K. (2014) [Crochet Saved My Life. Blogger and author](#)