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RISING FROM WASTES: UP-CYCLING OF POLYTHENE BAGS AND SACHET WASTES INTO FASHIONABLE JEWELLERY, USING CROCHETING TECHNIQUES IN TEXTILE ART

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Abstract

Most of the municipal solid wastes in Nigeria are from polythene bags and sachets which are used to package water and other items. These sachet water factories treat and package water in small polythene sachets which are quite handy and cheap. After use, empty sachets and polythene bags could be found littered everywhere in the environment. They do not decay thus burning or sending them to the landfill is a very big problem. This study is predicated on the fact that apart from not being able to decay because of its components, they cause the environment to look dirty and unkempt. This has become a problem for society and needs to be solved. This paper aims to collect some used empty sachets of pure water and polythene bags, wash, sanitize, dry, and utilise them to crotchet some items which could be used to fabricate some fashionable items. Studio exploration is the research design used, while the instrument used to collect data are observations and photographs. It was discovered after the studio experiment that some durable and re-useful items in form of jewellery could be produced by up-cycling some empty polythene bags instead of burning or sending them to landfills which poses some threats to human lives. It recommends that polythene wastes should not be burnt or buried rather they should be utilised, up-cycled, or re-cycled to produce other reusable items.

Keywords: Up-Cycling, Polythene Bags, Polythene Pure Water Sachets, Wastes, Acrylic Yarns, Jewellery

Introduction

In most urban cities in Nigeria, it has been observed that some polythene bag wastes and pure water sachet wastes litter all over some public places. Polythene bags have become some necessary items that accompany buying and selling in that they are light and quite cheap to procure. Some of these are given freely to a customer specially to put a bought item. Almost all shops utilize polythene bags for packaging water and goods but their life span is too short before they are trashed. Their usage increases day by day as they are inevitable to traders and consumers. Hence they are everywhere. Anichebe (2020), reports that the American Association for the Advancement of Science in 2015 revealed that Nigeria was ranked as the ninth in the world for plastic pollution and mismanagement of plastic waste which polythene is among. Plastic accounts for some percentage of the total waste generated in Nigeria. It further mentioned that the Nigerian government is yet to join the global effort to checkmate plastic pollution, even though its major cities are plagued by plastic pollutants. Anichebe further reports that according to the

statistics released by the World Health Organization in 2016, four Nigerian cities Onitsha, Kaduna, Umuahia, and Aba) were ranked amongst the 20 most polluted cities in the world. Thus it has become imperative to seek various ways to up-cycle or re-cycle anything made of plastics in Nigeria. This study is of the view that polythene bags are usually employed as shopping bags. They are made up of different sizes and colour, used to tie up different quantities of food items and other items or articles bought from the market. After several uses, they are also littered all over the place as refuse or burnt. It also revealed that in most dumpsites, empty sachets of pure water and polythene make up most of the waste dump. Ways of proper disposal have become a worry to the environment since it hardly decays rather it poses a health hazard. According to the United Nations Environment Programme (2019), the burning of plastics releases toxic gases like dioxins, furans, mercury, and polychlorinated biphenyls (better known as BCPs) into the atmosphere, and poses a threat to vegetation, human and animal health. It further mentions that dioxins settle on crops and in the waterways where they eventually enter the food and hence the bodies. These dioxins are potentially lethal persistent organic pollutants that can cause cancer and disrupt the thyroid and respiratory systems. Phthalates, the very chemicals that give plastic their desirable qualities which are flexibility and softness, are endocrine disruptors, associated with a plethora of health problems, from fertility issues and neonatal impacts on babies to allergies and asthma. It also insists that the burning of plastic wastes which polythene bags are among increases the risk of heart disease, aggravates respiratory ailments such as asthma and emphysema and causes rashes, nausea, or headaches, and damages the nervous system.

Authors of a study conducted at Hawai'i University recently reported another good reason to redouble global efforts to beat plastic pollution: as plastics decay, they emit traces of methane and ethylene, two powerful greenhouse gases, and the rate of emission increases with time. The emissions occur when plastic materials are exposed to ambient solar radiation, whether in water or the air, but in air, emission rates are much higher. The researchers tested polycarbonate, acrylic, polypropylene, polyethylene terephthalate, polystyrene, high-density polyethylene, and low-density polyethylene – materials used to make food storage, textiles, construction materials, and various plastic goods (United Nations Environment Programme, 2018).

In light of the above, this study conducted a studio exploration with these polythene bags and sachets found in an estate dump in Awka metropolis, Anambra state, Nigeria instead of burning by crocheting them into fashionable items like pieces of jewellery. Rising from the empty sachets and polythene bag wastes that constituted a menace to the built environment to their being up-cycled to useful items which could be utilized or sold for economic gains. This study posits that they should not be sent to landfills since they hardly decay and should not be burnt, but rather up-cycled or recycled to save the environment from the dangerous gases emitted when they are burnt.

Problem of the study

In Nigerian society today, empty polythene bags and empty sachet water nylon packs have posed real problems. To this effect, some people have resorted to re-cycling pure water sachets into interlocking bricks while some are up-cycling the wastes by weaving with the polyethene yarn (PLARN) gotten by cutting these empty bags into stripes which are woven into pieces of fabrics used to produce various items. However, this area to completely up-cycle and re-cycle these polythene nylon bag wastes still needs more attention, and solutions that could help to limit the dangers they pose to the environment are still needed. Hence, this study observed that anything informing of yarn

can be crocheted and the polythene wastes can be turned into yarns which could be crocheted. It has also revealed that the art of crocheting polythene yarns has not been given adequate attention by scholars. It proclaimed that crocheting as a technique in textile design could be used to produce some fashionable items like earrings, belts, bangles, hair ruffles, and many others and perhaps if utilized, could go a long way to help in reducing the waste that goes to the landfills. Since Anichebe (2020) reports that according to the statistics released by the World Health Organization in 2016, some towns found in Southeastern Nigeria were ranked among the 20 most polluted cities in the world. Thus it has become imperative to seek various ways to up-cycle or re-cycle anything made of plastics in Nigeria. Therefore, this study explored various ways these empty polythene wastes could be up-cycled by crocheting the wastes collected into fashionable jewellery of different sizes to suit contemporary fashion in Nigeria.

Research Question

In what ways can the crocheting of used polythene bag waste with a blend of acrylic yarn yield positive results which will help to reduce its danger to the environment?

Objective of the study

To ascertain if the crocheting of empty used polythene bag waste yarn with a blend of acrylic yarn could yield positive results which can help to curb its menace to the environment

Literature Review

Pure water polythene sachets

Empty pure water polythene sachets are the most waste incurred in Nigeria. According to Babatunde and Biala (2017), history reveals that sachet water was introduced to Nigerian markets around 1990 but its regulation by the National Agency for Food and Drug Administration Control started in 2001. Drinking water is very essential to nearly every part of the body and improves the overall health. It lubricates the joints in the body, carries nutrients and oxygen to the body cells, protects the body organs and tissues, and also lessens the burden on the kidneys and liver by flushing out waste products. Furthermore, Silver (2023) found out that water makes up a majority of one's body weight and is involved in many important factors. Which includes regulating body temperature, helping the brain to function well, creating saliva, protecting the spinal cord, helps excrete waste through perspiration, urination, and defecation. It helps maximize physical performance, prevents constipation, aids digestion, helps with nutrient absorption, improves blood oxygen circulation, boosts energy, aids cognitive function, and prevents dehydration. The National Academics of Sciences and Medicine (2004) mentioned that people get about 20 percent of their daily water intake from food, the rest is dependent on drinking water and water-based beverages. It said that the general water intake including all beverages and foods that meet most people's needs is about 15.5 cups of water each day for men and about 11.5 cups daily for women. It also suggests that water intake should be increased if one exercises a lot or lives in a hotter region to avoid dehydration. These are probably the reasons why water is consumed in much quantities in Nigeria a region that experiences a hot climate and the proper disposal of these empty water polythene sachets will keep on being a problem that needs to be given adequate attention.

Dalrymple, (1985) and Andrews, (1972) buttresses the above by mentioning that the Climate of Nigeria is mostly tropical. Nigeria has three distinct climatic zones, two seasons, and an average temperature, ranging between 21 °C and 35 °C (World Bank, 2021). The climate has a significant impact on the country's agriculture, economy, and society. There are two main seasons in Nigeria. The rainy season is the most important time for agriculture, as it is the time when most crops

are planted and harvested. The dry season is a time of drought, which can lead to water shortages and crop failures (Rocksrtrom, 2007). The high temperatures and humidity can also be uncomfortable and can lead to health problems (Bell, 1981). It experiences a tropical climate characterized by distinct wet and dry seasons. The dry season is usually accompanied by much heat. During this season, people perspire a lot and consume a lot of water.

During the dry and wet seasons, the kind of packaged water that could be afforded by most people is the polythene sachets of water otherwise known as 'pure water'. Many factories produce these sachets of water in many places in the country to the extent that they have an association of table water producers, The Association of Table *Water* Producers (ATWAP). This study has observed that they have helped society by providing water in sachets that most people could easily buy while in transit, office, or for home use. They are cheaper than plastic bottles. High demand and poor collection of waste from consumers have resulted in significant pollution and waste from sachets throughout Nigeria. They are hawked all over the place, the producers procure pick-up vans that distribute the bags of sachet water to numerous retailers who in turn sell to the consumers. After use, they are trashed properly as one could find the empty sachets scattered all over the built environment; in various compounds, markets, in various bodies of water, school environments and on the streets, and many others.

Polythene bags

A plastic bag, poly bag, or pouch is a type of container made of thin, flexible, plastic film, nonwoven fabric, or plastic textile. Plastic bags are used for containing and transporting goods such as foods, produce, powders, ice, magazines, chemicals, and waste. Most plastic bags are heat-sealed at the seams, while some are bonded with adhesives or stitched. Many countries are introducing legislation to phase out lightweight plastic bags, because plastic never fully breaks down, causing everlasting pollution of plastics and environmental impacts. Every year, about 1 to 5 trillion plastic bags are used and discarded around the world. From point of sale to destination, plastic bags have a lifetime of 12 minutes (Wikipedia). A polythene bag is a bag made of thin plastic, especially one used to store or protect food or household articles (Collins Dictionary). It is a common form of packaging. Polythene (poly + ethene) is an example of a plastic that is made by combining the chemical ethene and having the same arrangement of ethene in it. It is commonly used for making polythene bags. Many kinds of polyethylene can be made from ethylene. Plastic bags typically are made from one of three basic types: high-density polyethylene (HDPE), low-density polyethylene (LDPE), or linear low-density polyethylene (LLDPE), (Wikipedia).

However, while plastic such as polyethylene brings convenience, it also threatens environmental sustainability and human health. Due to insufficient recycling efficiency, millions of tons of polyethylene pollutants accumulate in terrestrial or marine environments each year. Plastic bags take hundreds of years to break down, every year the seas become 'home' to more and more bags that find their way there through our sewers and waterways. They are non-biodegradable and as such, wastes of these forms (non-biodegradable) pose a serious threat to the environment. Non-compostable plastic bags can take up to 1000 years to decompose. Plastic bags are not capable of biodegradation but rather they photodegrade, a process by which the plastic bags are broken down into smaller toxic parts. In the 2000s, many stores and companies began to use different types of biodegradable bags to comply with perceived environmental benefits (Wilder, 2006).

According to trademark polythene (2015), whenever polythene is mentioned, most people will generally think of polythene bags, however, there are many other uses for this very versatile product; for instance for dustbin liners, hoses/tubes, insulation, plastic bottles, protective packaging, door mat for wet feet, intravenous therapy, tabards, kids play mats, food wrapping, table covers, pallet cover, postal sacks, kites, metal drum tops, surgical gloves, grow bags, clothing bags, grocery and packaging/bagging, and many others.

The number of plastic bags used and discarded worldwide has been estimated to be on the order of one trillion annually. The use of plastic bags differs dramatically across countries (Internet Archive, 2023). While the average consumer in China uses only two or three plastic bags a year, the numbers are much higher in most other countries: Denmark: four; Ireland: 20; Germany: 65; Poland, Hungary (Salvatore, 2010), the number of polythene bags and sachets used in Nigeria is equally higher since most homes consume sachet water.

Plastics are made from non-renewable natural resources such as crude oil, gas, and coal. According to the 2002 Nolan ITU Report for Environment Australia on Plastic Shopping Bags - Analysis of Levies and Environmental Impacts; just 8.7 plastic checkout bags contain enough embodied petroleum energy to drive a car 1 kilometre. Plastic bags are recyclable. If plastic is not recycled or upcycled, this embodied energy is lost from the resource chain.

Up-cycling

Upcycling represents a variety of processes by which "old" products get to be modified and get a second life as they're turned into "new" products. In this way, the mix and aggregation of used materials, components, and items produce a "new product" with more value than the original value of the sum of all its components. Upcycling is also about materials or items that get to be re-adapted and/or re-purposed creatively, and whose lifespan is, therefore, expanded. Upcycling is a way designers can directly reduce the net volume of household solid waste entering the waste stream; and more broadly, net material volumes in the global product market (Upcycling definition, 2020). This study declares that upcycling is about taking old, wasted, or rumpled polythene bags and re-purpose them. From rumpled, torn polythene bags that can be crocheted or woven into objects that will work as decoration pieces or fashionable objects: there are no limits to the power of creativity in upcycling polythene bags and other water proof items.

Crocheting

The word crochet is derived from the French *crochet*, a diminutive of *croche*, in turn from the Germanic *croc*, both meaning "hook"(Free Dictionary). It was used in 17th-century French lace-making, where the term *crochetage* designated a stitch used to join separate pieces of lace. The word *crochet* subsequently came to describe both the specific type of textile and the hooked needle used to produce it (Santina, 1985). In 1567, the tailor of Mary, Queen of Scots, Jehan de Compiegne, supplied her with silk thread for sewing and crochet, "*soye à coudre et crochetz*"(Teulet, 1862).

Crocheting has been used for charity and activism in that it has been very common for people and groups to crochet clothing and other garments and then donate them to soldiers during the war. People have also crocheted clothing and then donated it to hospitals, for sick patients and also for new-born babies. Sometimes groups will crochet for a specific charity purpose, such as crocheting for homeless shelters, nursing homes, etc. It is becoming increasingly popular to crochet hats (commonly referred to as "chemo caps") and donate them to cancer treatment centres, for those undergoing chemotherapy and therefore

losing hair. During October pink hats and scarves are made and proceeds are donated to breast cancer funds. Organizations dedicated to using crochet as a way to help others include Knots of Love, Crochet for Cancer, and Soldiers' Angels. These organizations offer warm useful items for people in need. In 2020, people around the world banded together to help save the wildlife affected by the Australian bushfires by crocheting kangaroo pouches, koala mittens, and wildlife nests. This was an international effort to help during the particularly bad bushfire season which devastated local ecological systems (Wikipedia).

Jewellery

Jewellery or jewelry consists of decorative items worn for personal adornments, such as brooches, rings, necklaces, earrings, pendants, bracelets, and cufflinks. Jewellery may be attached to the body or the clothes. From a Western perspective, the term is restricted to durable ornaments, excluding flowers for example. For many centuries metal such as gold often combined with gemstones has been the normal material for jewellery, but other materials such as glass, shells, and other plant materials may be used (Wikipedia).

Jewelry has some functions for instance, it could be used as an artistic display, as a hair or cloth piece, as a marker of status, signifier of a form of affiliation, whether ethnic, religious, or social, provide talismanic protection (in the form of charms and amulets), as a carrier or symbol of personal meaning – such as love, mourning, a personal milestone or even luck, considered as a good investment and superstition

Up-cycling and re-cycling of polythene bag/ sachet wastes in Nigeria.

The 2018 World Environment Day provided much-needed impetus for some countries to launch or appraise their plastic pollution initiatives. An example is India, which committed itself to proscribing and eliminating all single-use plastics in all Indian states by 2022. Many Indian states have keyed into this initiative and a national ban on most single-use plastics is due to take effect from 1 July 2022.

Unfortunately, Nigeria hasn't done much in this regard. Compared to other developing countries such as Kenya, Rwanda, Uganda, and Tanzania, its commitments to combating plastic pollution are far below average. Lagos, Nigeria's megacity of nearly 16 million people, produces between 13,000 and 15,000 tonnes of waste per day, including 2,250 tonnes of plastic, according to a local recycling business. Nigerian lawmakers considered a bill in 2019 to prohibit the use of plastic bags. The bill is still in limbo. It is yet to undergo further reading and has not been enacted into law. Consequently, plastic bags are being indiscriminately used in Nigeria (Ekpei 2022). This study has observed that in every refuse dump found, polythene bag wastes outnumber other wastes because they are mostly utilized by the rich and poor. As could be observed on Plate 1:



Plate 1: A refuse dump found in Agu Awka GRA, Awka metropolis, Anambra state.
Source: Researcher's fieldwork (2023)



Plate II: Another refuse dump found in Agu Awka GRA, Awka metropolis, Anambra state. Source: Researcher's fieldwork (2023)

These refuse are found everywhere for instance on the roads, inside the gutters, people's compounds, school/university campus premises, marketplaces, supermarket surroundings, along the streets, some church premises, some bank premises, and many others. The plastic sachets used to package drinking water in Nigeria are polluting the country's waterways and contributing to floods.

It has become a national concern on what to do with polythene bag wastes. Of recent, out of the concern to save the environment, Intissar Bashir Kurfi started turning empty pure water sachets into interlocking tiles and also blocks which could be used in buildings.

Adejoke Lasisi is a fashion designer that was determined to get rid of some of that plastic waste and turn it into something beautiful. "Nigerians consume pure water, and just throw the nylon over their shoulders – sometimes without finishing the water in it," she says. She upcycled empty pure water sachets by weaving them on a loom with a blend of acrylic yarns to produce some synthetic materials. So she started Planet 3R (the three Rs reduce, reuse, and recycle). The award-winning business converts plastic and textile waste – especially water packaging – into fashion items like bags, shoes, clothing, and anything else they can think of. It's a modern business that is in Ibadan, a city with a long history of textiles and weaving.

There are also some weavers in Innovate Hub Abuja utilizing the empty pure water sachet waste to produce a piece of fabric for making some school bags, hats, sandals, and sneakers. The pictures are placed on Plates III a and III b.



Plate IIIa: A lady in Innovate Hub, Abuja Nigeria weaving with pure water waste polythene bags that were cut into stripes with the aid of a loom.
Source: Researcher's fieldwork (2023)



Plate IIIb: Another lady weaving with pure water waste polythene bags cut into stripes with the aid of a loom.
Source: Researcher's fieldwork (2023)

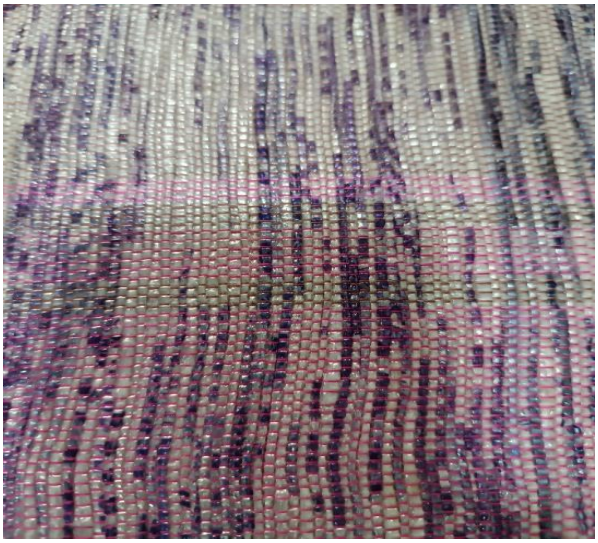


Plate IV: A sample of the synthetic material produced with an empty pure water polythene sachet with a blend of acrylic yarn woven by the weavers on Plates IIIa and b with the aid of a loom. Source: Researcher's fieldwork (2023)



Plate V: sample of the bags produced from the woven material on Plate IV in Innovate Hub Abuja. Source: Researcher's fieldwork (2023)

Methodology

Research design

This is qualitative research. The study adopted the studio exploratory method as the research design. Photography and observations were also utilized as research instruments.

Population of the study

The population of the study is all the empty polythene bag wastes and sachet water nylon wastes collected. Since all the polythene found were not being used, four samples were chosen from the population for the studio exploration and thereafter some inferences were drawn.

Collection of empty pure water sachet and polythene bag wastes

Since polythene bags and empty sachets of water are normally part of the wastes in every dumpsite, this study purposively chooses one dumpsite. They were collected from a dumpsite in CEMA quarters Agu- Awka GRA, Awka metropolis, Anambra state.

Studio exploration materials.

During the studio exploration, some materials were utilised, they are as follows: different sizes of crochet pins, acrylic yarns, empty pure water sachet wastes, polythene bag wastes, tape, a pair of scissors, beads, and embroidery thread.



Plate VIa: Polythene bag wastes and pure water sachet wastes collected, washed, and sterilized
Source: Researcher's fieldwork (2023)



Plate VIb: The crochet set and acrylic yarn
Source: Researcher's fieldwork (2023)



Plate VIc: Embroidery thread
Source: Researcher's fieldwork (2023)



Plate VII: Some of the samples chosen from the population of the study
Source: Researcher's fieldwork (2023)

Processes and steps involved in the studio exploration.

Step 1:



Plate VIII: Firstly, having washed and dried the polythene, the palms were used to flatten it to remove excess air. After this, a tape measure was used to measure the width of the yarn. 0.5cm was used as the measurement in this study. it was marked at the edges of the bag. One can also use 1cm as a choice or as a result of the size of the crochet. The edges of the polythene bag waste which contains the handle and sealed bottom were cut off with a pair of scissors.
Source: Researcher's fieldwork (2023)

Step 2



Plate IX: Secondly, the other edge of the polythene bag waste (the bottom) was cut off. Source: Researcher's fieldwork (2023)



Plate X: During the third stage, the bag now has two opened sides. To turn it into polythene yarns, the bag was cut into strips from the unopened sides. Starting from one side, it was cut horizontally but not to reach the end, a little space of 0.5cm was given.
Source: Researcher's fieldwork (2023)



Plate XI: Fourth stage, the bag has been cut completely, but polythene yarns known as (PLARN) are yet to be formed. After cutting it into stripes, the centre is opened to make way for the hand. Source: Researcher's fieldwork (2023)



Plate XII: After cutting it into stripes, the left hand is inserted through the centre to make sure that the stripes cut are in order.
Source: Researcher's fieldwork (2023)



Plate XIIIa: After opening it up from the centre, the left-hand holds it in place while the right cut the stripes in a slanting manner to form the polythene yarns for crocheting.
Source: Researcher's fieldwork (2023)



Plate XIIIb: After opening it up from the centre, the left-hand holds it in place while the right cut the stripes in a slanting manner to form the polythene yarns for crocheting.
Source: Researcher's fieldwork (2023)



Plate XIV: The polythene yarns (PLARNS) is ready for use
Source: Researcher's fieldwork (2023)



Plate XV: The same process was also applied to prepare the polythene yarn (PLARN) from empty pure water polythene sachets
Source: Researcher's fieldwork (2023)



Plate XVI: Earring frame for the crocheting exercise
Source: Researcher's fieldwork (2023)

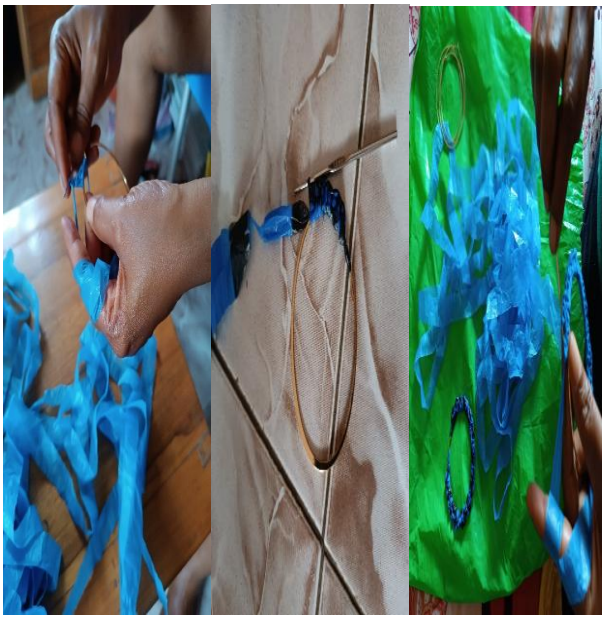


Plate XVII: Crocheting the earring frame with the polythene yarn. (PLARN)
Source: Researcher's fieldwork (2023)



Plate XVIII: The crocheted earring with the blue and black polythene yarn
Source: Researcher's fieldwork (2023)



Plate XIX: Neatening the edges of the crocheted earring as a sort of finishing
Source: Researcher's fieldwork (2023)

Results

This study has found that in every refuse dump found, polythene bag wastes outnumber other wastes because they are mostly utilized by the rich and poor. During this study, the researcher also observed some weavers in Innovate Hub Abuja utilizing the empty pure water sachet waste to produce a piece of fabric for making some school bags, hats, sandals, and sneakers.

This study found out during the studio exploration that the softer polythene which is from the sachets of pure water is better woven than crocheted because it cannot withstand some stretches, but when masterfully handled produced some appropriate results. Pure water sachets have limited colours which are not colourful compared to the polythene bags. Therefore, their products were not colourful. The number of plain yarns that were gotten from one polythene bag is 13.5 yards which when crocheted with, made a set of earrings. The number of yards from the pure water sachet is 2.5 yards, these were combined with acrylic yarns and embroidery thread to produce some earrings. Some colours of polythene were not available in the wastes, therefore only the colours available were utilized in the studio

exploration. It also found out that crocheting polythene yarns into some jewelleries produced some positive results which could be sold for some financial gains. The positive qualities of polythene, which are lightness and water repellent makes it safer for producing earrings. They are not heavy to wear in the ear hole, which is the earring made will suit the ears and not cause any harm. Some older worn out and faded earrings were also up-cycled instead of discarding them, by using them as frames for crocheting new earrings. In light of the above, this study conducted a studio exploration with these polythene bags and sachets found in an estate dump in Awka metropolis, Anambra state, Nigeria instead of burning by crocheting them into fashionable items like jewelleries. Rising from the empty sachets and polythene bag wastes that constituted a menace to the built environment to their being up-cycled to useful items which could be utilized or sold for economic gains. This study posits that they should not be sent to landfills since they hardly decay and should not be burnt, but rather up-cycled or recycled to save the environment from the dangerous gases emitted when they are burnt.

The results of the studio experiments are hereby placed in Plates XX-XXVI:



Plate XX: Crocheted earrings using blue and black polythene waste
Source: Researcher's fieldwork (2023)



Plate XXI: Crocheted earrings using black polythene bag waste
Source: Researcher's fieldwork (2023)



Plate XXII: Crocheted earrings with crystal beads using blue polythene bag wastes
Source: Researcher's fieldwork (2023)



Plate XXIII: Crocheted earrings with a combination of acrylic yarn and pure water sachet wastes
Source: Researcher's fieldwork (2023)



Plate XXIV: Crocheted earrings with a combination of acrylic yarn and pure water sachet wastes
Source: Researcher's fieldwork (2023)



Plate XXV: Crocheted necklace with a combination of polythene bag wastes and beads
Researcher's fieldwork (2023)



Plate XXVI: Models wearing the pieces of jewellery made from waste
Researcher's fieldwork (2023)

Conclusion

The up-cycling of polythene wastes into some reusable jewellery items was achieved using the crochet pin, beads, and acrylic/ embroidery yarns. This studio exercise has presented polythene as appropriate material that could be used in the art of crocheting. It has also proven

that the waste incurred through its wastes in Nigerian societies could be minimized by up-cycling them into pieces of jewellery that are waterproof, soft, and also colourful to suit the current trends in Nigerian fashion. Previously, they are only converted to interlocking tiles and some other items by weaving them with acrylic yarns with the aid of a loom to produce synthetic fabrics used to fabricate footwear, bags, purses, hats, clothes, and others which jewellery was not among. Since polythene is made of the same components, and the same type of polythene is used in most business areas, the difference is only the thicknesses that vary, the study limited itself to the polythene collected in one dumpsite at Agu-Awka in Awka metropolis, Anambra State. The studio results are used to conclude that admirable jewellery could be produced using polythene wastes using crocheting as a technique.

Recommendations

This study recommends that more experiments using polythene wastes should be conducted as much has not been done to decrease the amount that goes to the dump sites. As this will also decrease the amount that ends up in landfills. In this way, the environment will be a healthier place to live in. Furthermore, some people could eke out a living by practicing this art and selling their products thus enabling them to be self-reliant.

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