

# PRODUCTION OF OUTDOOR SCULPTURES USING WATERPROOFED PAPIER-MÂCHÉ AS AN ADVOCACY FOR THE PROTECTION OF ENDANGERED ANIMALS: A STUDY OF IMOKA MONKEYS

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## Abstract

This practice-led research in sculpture investigates the potential of waterproofed paper mache as a sustainable and accessible medium for creating durable outdoor public art. The study is grounded in the use of this unconventional material to produce a series of outdoor sculptures as a form of advocacy for the protection of endangered animals. The project focuses on the Imoka monkeys in Awka, Anambra State, a species facing critical threats due to habitat loss and human activity. Through a series of material experiments, the research will develop and refine a waterproofing technique for papier mache that can withstand the tropical climate of Awka. The resulting outdoor sculptures will be strategically placed in public spaces to raise awareness and foster a deeper connection between the local community and the endangered primates. This research contributes to the discourse on sustainable art practices and demonstrates how artistic production can serve as a powerful tool for environmental education and community-based advocacy. By transforming recycled materials into impactful works of public art, the study aims to inspire a sense of stewardship and active participation in the conservation of the Imoka monkeys and their natural habitat

**Keywords:** Outdoor sculpture, Waterproofed papier mache, public art, environmental advocacy, Endangered animals, Imoka monkeys, Conservation, Sustainable art

## INTRODUCTION

Wildlife conservation refers to the practice of protecting wild species and their habitats in order to maintain healthy wildlife species or populations and to restore, protect or enhance a natural ecosystem. Major threats to wildlife include, habitat destruction, degradation, fragmentation, over population, poisoning, pollution, climate change and illegal wildlife trade (Cain, Michael L., Bowman, William, D, Hacker, Sally, D. 2013).

A 2019 UN report on biodiversity states that about a million species of wildlife assessed are at risk of extinction. It is also being acknowledged that an increasing number of eco-systems on earth containing endangered species are disappearing. In Africa and Nigeria in particular, the story is not different, hence, there is need to address these issues. Agreed, there have been both national and international governmental efforts to preserve earth's wildlife which include, prominent conservation agreements such as; the 1973 Convention on International Trade Endangered Species of Wild Fauna and Flora (CITES) and the 1992 Convention on Biological Diversity (CBD). There are also numerous non-governmental organizations (NGO's) dedicated to conservation. However, it could be observed that most of these effort did not include using sculptural pieces for the purpose of wildlife conservation education. Wildlife conservation education and advocacy is not yet popular in Nigeria, hence the researcher has decided to employ sculpture as a vehicle to educate the people on the importance of wildlife, which include: preservation of biodiversity, human needs, provision of clean air and water and relieving suffering for animals that are kept captives.

The choice of using art especially sculpture in wildlife education is owing to the fact that art could communicate to both literate and illiterate persons in the society. The researcher also added another dimension of environmental management by choosing paper mache as his medium of expression. In this process waste papers that litter our environment and often block drainages are used for sculptural production.

Paper mache literarily means masticated paper or chewed paper. Paper mache is also used to describe objects made of different types of paper construction, including, paper pulp, applied, cast or extruded into a molded form (Wano's J. and Li Yuhua, 1983) paper stripes could also be adhered together over a mould to form and pressed between molded forms. Globally paper mache has been in use since the ancient times, Reyden and Williams (1986) posit that paper has been developed in china since the Han Dynasty, 202BC-220AD.

Here in Nigeria, paper mache was introduced during the colonial period, however, it was used mostly for industrial purposes and a little that was used for art were for educational purposes, especially for art teaching in primary schools. During the colonial period paper mache was not used in Nigeria for professional art production as could be seen in countries such as Mexico, China and France, where they have been employed for outdoor/public sculptures. Against this background, this research is focused on art educational/advocacy for the conservation of the large number of Enwe Imoka (Awka indigenous monkeys) that roam farmlands around Awka with a large concentration in Nnamdi Azikiwe University, Awka.

Awka is an Igbo community in Anambra state, Nigeria. Amanke Okafor (1991) posits they are autochthonous theory of Awka origin when he states that "Amaenyi, Umeri were original Awka", no doubt some waves of migration followed after Awka has grown into large urban centre and it is presently the headquarter of Awka south LGA and capital of Anambra state.

These monkeys are the totemic animals of Awka people and form part of their cultural history. The monkeys were reputed to have saved Awka town from invading enemy force during the ancient times and in turn Awka rewarded the monkeys by revering them and instituted that no Awka indigene or non-indigene living in Awka should kill or eat monkey. Even if the monkey was killed accidentally, the offender should be made to perform a befitting burial and other cleansing rituals at Imoka shrine.



Plate 1: Picture showing a typical Awka Monkey. Photo by the researcher

However, this situation changed during the Nigeria Biafran civil war, when the Federal troop decimated most of the monkeys which they considered as "bush meat". Even after the war,

there is no conservation measure in place to preserve these Awka monkeys and they are gradually drifting towards extinction.

This situation calls for serious attention from every discipline, conservation they say is everybody's business. The disappearance of these Awka monkeys will create an imbalance in Awka ecosystem and could be conserved for several reasons such as tourism and other purposes. In the course of this study the research will produce an above life size statute of Enwe Imoka that will be mounted in UNIZIK Biological Garden inside Nnamdi Azikiwe University, Awka.

### **1.2 Statement of the Problem**

The state of neglect of our ecosystem in Nigeria, especially in wildlife conservation and poor waste management is undesirable. There is little institutionalized effort to conserve endangered species of animals. The number of game reserves and biological gardens in the country is insufficient and worse still some zoos where animals are kept have been severally neglected in some states or shut down completely, such as the case with the defunct Enugu zoological garden which has been balkanized and turned into a housing estate.

Awka, the capital of Anambra state has a lot of wild animals roaming merrily around Agu-Awka area. Among these wild animals, the monkey stood out because of its cultural significance to Awka indigenes, who regard the monkeys as their totem. Apart from the role these monkeys play in balancing the ecosystem the Awka people believe that the extinction of the Awka monkeys will spell doom on their community.

This situation calls for serious attention, hence the research attempted to contribute to the reversal of the ugly trend by advancing an artistic dimension through the production of sculptures in paper mache as a means of raising awareness to the problem. The use of paper mache, made of waste paper will also contribute to waste management in Awka metropolis.

### **Aim of the Study**

The study is aimed at generating an advocacy for the conservation of Awka endangered monkeys and creating environmental preservation awareness using outdoor paper mache sculpture.

### **LITERATURE REVIEW**

A lot of arts and craft could be produced using paper as the primary artistic medium for the creation of two- or three-dimensional objects. Paper lends itself to a wide range of techniques; it could be folded, curved, bent, cut, glued, stitched, layered or molded. Among these art forms made from paper, paper mache stands out, especially in sculpture usage. This is because it could be prepared and molded like pliable sculptural materials, it is also relatively cheap to use compared to other sculptural media. A paper mache was defined by Visual Dictionary of Art as;

A pulp waste paper mixed with starch or gum to make a thick creamy paste which will set into a card-like hard thin shell used by sculptors for Marquettes: Picture-frames and even furniture have been made of reinforced paper mache.

Notable international paper mache artists include: Lauren clay, Sergio Bustamante Benavidez Robert among many others.

Lauren clay (B.1982) is an American artist from Brooklyn, New York. She is known for her large architectural installations and relief sculpture made from paper. Sergio Bustamante is another notable artist who has largely explored paper mache, Sergio.

Bustamante is a Mexican artist and sculptor, who also studied architecture. Infact many contemporary artists use paper mache as a substitute for wood and for its affordability.

### **Paper Waste**

The idea of waste is diverse hence waste could mean different things to different people. Generally speaking, waste are discarded materials that are considered to be useless and valueless. However, the contradiction inherent in the concept of wastes is that, what one person discards as waste could be useful to another person. Nwanna (2014) observes that “waste materials could be given a new lease of life through up cycling and reuse”.

Waste abounds in both solid and liquid forms. Paper belongs to the solid type of waste which are used widely in the design of items that support basic human needs. The volume of solid wastes generated by people continues to increase at a faster rate than the capacity and imputes of government owned waste management agencies, especially in Awka urban area. Against this background, there is need to improve on the technical and financial resources required to parallel its growth. Infact, the municipal solid waste management in Awka urban area remains grossly in adequate.

Paper waste around Awka metropolis comes through two sources. These are: the pre-consumer paper waste identified as unsold printed papers, including newspapers and magazines. The second is the post-consumer paper waste consisting of various types of papers that are no longer wanted by the consumer. In view of this problem McDonough and Braugart (2002) proposed the recycling option. Thus, urging for a creative reused of solid waste materials. Their suggestion, if put in use, could have a positive impact on global ecological, social and financial conditions.

### **The Concept of Waste to Wealth**

The creative transformation of waste materials to wealth instead of disposing them in landfills and refuse dumps have emerged as a serious measure in waste management Anidi (2007) posts that waste, just like life, is a continuous process and can be recreated or transformed out of decay and dirt”. Onwuekwe (2015) observed that;

Visual artists in Nigeria have joined a host of government agencies and private sectors in waste reduction through rechanneling of certain waste into various aesthetic and utilitarian forms, through individual and group research, art workshops, exhibitions and conferences. Artists in Nigeria have seen wastes as potentials for beautification and utilitarian functions.

Chime (2013) also supported the idea of waste to wealth as a means of reducing waste in our environment. She avers that “the concept of waste-to-art and waste to wealth literarily mean moving waste from the platform of exhausted ability to a valuable and desirable level...”

Generally, solid waste could be managed through the 5R’s method which entails: refuse, reduce, reuse, repurpose and recycle.

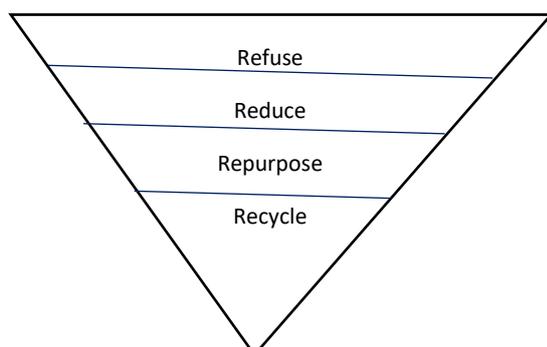


Fig 1: Hierarchy of the 5R’s waste management model (2014)

According to the illustration in fig 1: step one is, Refuse to buy wasteful non-recyclable products, step two is Reduce the harmful wasteful and non-recyclable products. Stage three entails Reuse of some waste materials, especially synthetic material such as nylon and polyester. Stage four is; Repurpose/Up-cycling: Hence, for every item that cannot be reduced or reused should be repurposed or up-cycled sometimes it requires artistic skill. Finally, stage five is Re-cycle, which is the most environmental friendly waste disposal method.

### **Concept of Advocacy**

An advocate is someone who works on behalf of an individual, group or organization. Public support or recommendations of particular cause or policy. It is also mean, synonymous support for a cause, argument for, arguing, calling for, pushing, pressing for, defence, espousal, espousing, recommendation, recommendation, recommending, advising, in favour, backing, supporting among others.

Advocacy could also be seen as an activity by an individual or group that aims to influence decisions within political, economic and social institution. While an advocate is one who works on behalf of an individual, groups or organization. While an activist works to stir up broader social or political change. An activist is someone who is active in comparing for change normally on political or social issues. Activism is what activists do, that is the methods they use in order to bring about change.

Flavell (2003) asserts that; “there is a common misconception regarding the terms activist and advocate. We also noticed that many who want to work in human rights identifying themselves as activists rather than advocate.

### **Theoretical Framework**

#### **Environmental conservation**

The study will employ the environmental theory to provide support to the work because it has known relations among the various ideas/variables and this could ease application and discussion on the subject.

This theory requires that the environment to be used in a way that is sustainable and it ensures that the natural resources will be used in a manner that will meet the present day needs for resources without jeopardizing the supply of the resource for the future generations.

Closely related to this theory is environmental education. According to the UNESCO convention in Thilisi, 1997, environmental education is a process that aims to create a world community that carries about the environment and its related problems and has the knowledge, motivation, commitment and skills to work, both individually and collective in looking for alternatives or providing solutions to existing environmental problems and avoid the emergence of new ones (Natasi Desi, Mohammed Sabri, Abdul Karim, Ismail Staoli Wekke, and Rukmina Gonibala 2021).

Both environmental conservation theory and environmental education are pertinent to the advocacy of environmental preservation and ensuring a balanced ecosystem. The study advocates for the preservation and conservation of Awka totemic monkeys, which have become endangered.

### **Theoretical Studies**

#### **Awka Endangered Monkeys**

The Awka monkeys, locally known as “Enwe Imoka” occupy a special place in Awka cultural history, which dates to the pre-colonial era, when Awka existed as a sovereign people with the task of maintaining its territorial integrity. History has it that Awka was once under external attack by an invading army and that it was under siege at the outskirts of the town. It was the monkeys that first alerted the community about their presence, which helped the community to gather their fighting force and repel the attack.

After winning this war, Awka decided to honour the Enwe Imoka and adopted them as totem and forbade any Awka indigene from killing any monkey, which they sealed with very strict sanctions. Okafor (1991). Nwanna (2013) highlighted the importance of Awka monkeys to the socio-cultural life of Awka people in his work: “The Carnivarlist Tradition in contemporary African Society” Nwanna devoted part of the introductory space to Awka tradition of origin where he narrated the role of Awka monkeys in Awka, and how they have been marginalized by forces of modernization and social change. He posits thus;

Before the advent of the colonial masters, there were constant wars and slave raids in Igboland from time to time. It was then left for every community to arrange for its security otherwise they will be wiped out. Rules were made to engage able bodied youth to secure the community. Apart from this plan, Awka people had informants that would alert them on any form of invasion on their land. It was then that the black monkey came to play.

Presently the need for the conservation of these Awka monkeys goes beyond their cultural importance because of their role in ensuring a balanced eco-system.

## **METHODOLOGY**

The study used mixed research methods for the study. First, exploratory research, which involves a systematic and process of arrive at a physical result, and also survey research design will also be used. This design is suitable for the study because according to (Emeikwu, 2012) “This type of research gathers data about variable from a representative sample of the population. It will offer the researcher the opportunity to seek the opinion of some members of Nnamdi Azikiwe University community, Awka indigenes, professional artists and other interest groups.

### **Method of Data Analysis**

Qualitative and quantitative methods of data analysis will be used. Mean and standard derivation will be used to answer the research question

### **Instrument for Data Collection**

The instrument developed for the research will be divided into two sections A and B. Section ‘A’ solicites the bio-data of the respondents. They are required to know the areas of specialization of the respondents, which are necessary to understand their responses.

Section B is a 5-point Likert-type scale questionnaire, each of the question shall have fine options for the respondent to choose from, by ticking that which is appropriate to his/her opinion. 30 items are listed out which sought the respondent opinion. The responses according to Likert is summarized as strongly agreed (SA) Agree (A) Undecided (U) Disagreed (D) and Strongly Disagreed (SD).

Equipment and materials used for the practical aspect of the research.

### **Equipment used**

- 1) Sketch Pad  
A sketch pad is made of plain sheets of paper with a tick cover. It is used for making quick sketches often without details of some of the features of the object drawn. The sketches made in the course of this study will form the bases for the onward presentation of the various stages of development of the sculptures produced.
- 2) Camera  
Both still and motion camera shall be employed in capturing pictures of monkeys at resting position and also in motion shall be taken while the most relevant ones will be used to illustrate the text in the study.
- 3) Computer/Internet Services  
Electronic devices such as computers and internet services shall be employed for typesetting and reproducing the photographs through Corel Draw, while relevant data shall be downloaded from internet in the course of the research.

### **Materials**

Materials to be employed in the studio include, scraps of paper/waste paper, glue, clay, dye stuffs and their components, wax, metal rods brushes, sand papers, fibre glass clay and plaster of Paris.

### **Tools**

Tools to be used include;

Pairs of scissors, fliers, hammers, knife, spatula, and chisels

### **PRODUCTION OF PRACTICAL WORKS**

The sculptures involved in this project shall be produced in two main techniques after the conceptual stage, mainly drawings.

- 1) Direct method This shall entail the initial production of an armature which after paste like form of paper mache, mixed with glue is added on the armature in layers to achieve the desired form.
- 2) Indirect method: This entail, first, production of a model in clay, after which moulds in cement or plaster of paris shall be taken from it. These negative mould shall be treated with a surface separator and paper mache paste, mixed with glue inserted into the moulds in layers. Projections could be re-inforced using iron rods or sticks. Various parts of the mould are latter assembled and proper finish applied. The production of works in this projects following stages:

#### **Stage One: Conceptual Stage**

This stage involves the initial ideas, design and planning going on in the artist's mind. Some of these ideas are made visible when they are reduced to sketches and drawings. Here are some of the original sketches from the artist's conception. These could be seen from figures 5 to 14. The researcher also studied a monkey skeleton to understand its basic structure. This could be seen in Figure 14. Plates 5 to 14: Drawings of monkeys to be used for the projects.

**Stage One: Conceptual Stage**



Fig 1: illustration shows delineations of Monkeys in different stances. Hilary Okoye

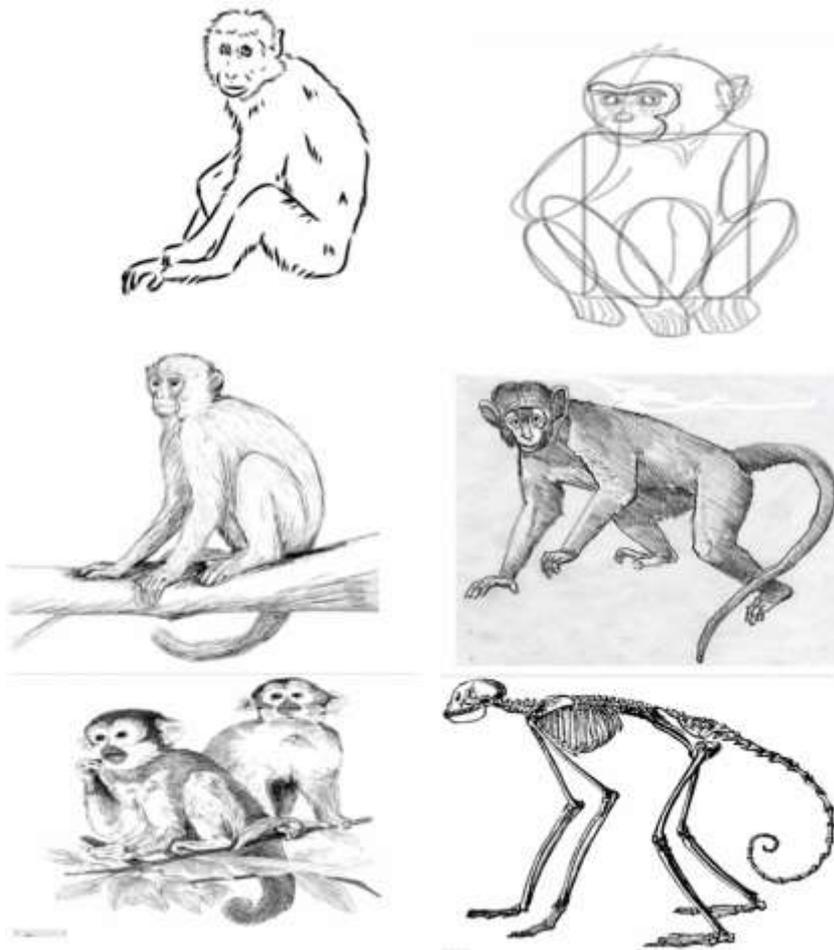


Fig 2: illustration shows delineations of Monkeys in different stances. Hilary Okoye

Different studies of monkey were made using pencil on paper, including the skeletal structure of a monkey. These studies helped to comprehend the anatomical structure of the primate.

### **Stage Two: Making of Amarture**

At this stage, the researcher shall produce the armature for the above life sculpture of the Awka monkey. Armatures are frameworks or supports used for Sculptural modelling in clay, cement, fibre wax or any other pliable material.



**Plate 8: An armature for producing a clay model of a monkey**

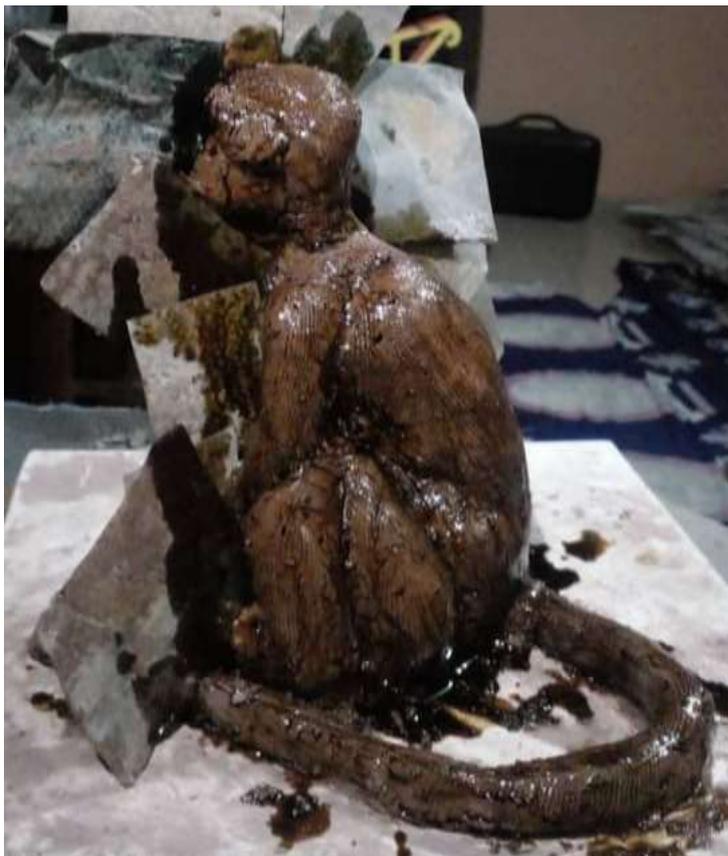
**Stage 3: Modelling of the Marquette and Monkey Statue in Clay already prepared**

Here, clay shall be used to model over the armature to achieve the designed shape of a monkey. The Marquette is the initial small study of the larger project which the researcher intends to produce. A Marquette is a three dimensional study of an intended large sculptural work.



**Plate 9: A Marquette of a seated monkey. Photo by researcher**

**Stage 4: Casting Processes**



Casting entails a faithful reproduction of a clay model or in any impermanent medium into permanent media such as; cement, plaster of Paris, bronze and fibre glass. Plate 6, shows two steps in casting the negative moulds. Here the intending moulds are already demarcated using the area separators (strips of aluminum sheets) and the surface separator (lubricant) has been applied. Next in plate 6 is the investment of the clay model with motar (a mixture of cement, sand and sufficient water) after which iron rods will be fixed to re-inforce the molds.

After achieving the negative moulds, the moulds will be properly lubricated and already prepared paper mash inserted to form the positive cast. (See plate 7)

**Plate 10: A clay model with both area and surface separators, photo by researcher**

### **Stage 5: Finishing**

Here the application of the little resin will be mixed with the Sodium Chloride (Common Salt) which serves as a good antiseptic against mucor or growth in the papier mache finished work, the Sodium Chloride serves as a killer of any micro organic growth in the papier mache and at the end the House paint will be used as well to coat the finishing work which serves as the secret of the research which keeps to work to resist decaying and deterioration.

The positive cast shall be released from the negative moulds to be properly joined after which fibre glass shall be applied over it to make the sculpture water proofed and durable enough to serve as an outdoor sculpture.



**Plate 11: The clay model invested with motor to form the negative mould** , following an application of already prepared paper mash onto the negative space of the mould. Photo: Chima Okeke

### **SUMMARY**

This research investigates the potential of waterproofed paper mache as a sustainable and accessible medium for creating durable outdoor public art. The problem of this study arises as a result of the alarming decline of the Imoka monkey population in Awka, Anambra State, due to habitat destruction and human encroachment. This issue is compounded by a lack of public awareness and accessible artistic interventions that could serve as a powerful tool for environmental advocacy and community engagement. Through a series of material experiments, the research will develop and refine a waterproofing technique for paper mache that can withstand the tropical climate of Awka. The resulting outdoor sculptures will be strategically placed in public spaces to raise awareness and foster a deeper connection between the local community and the endangered primates. This research contributes to the discourse on sustainable art practices and demonstrates how artistic production can serve as a powerful tool for environmental education and community-based advocacy. By transforming

recycled materials into impactful works of public art, the study aims to inspire a sense of stewardship and active participation in the conservation of the Imoka monkeys and their natural habitat.

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