



Proceedings of the 2nd (Hybrid) International Conference, Faculty of Social Sciences, Niger Delta University, Held on March 13, 2024

EXPLORATION OF WASTE PLASTICS AS A MEDIUM OF EXPRESSION IN ART

DOI: 10.36108/wjss/ConfP.2024.021

Samuel Rotimi Oligbinde¹ and Emmanuel Jebechi Ofili²

¹Department of Art and Design, The Federal Polytechnic Ilaro, Ilaro, Ogun State, Nigeria

²Department of Fine Art and Industrial Design, Delta State University of Science and Technology, Ozoro, Delta State, Nigeria

Abstract

The environment we live in accommodates wastes with little attention to recycling or repurposing of it. Recent development all over the world has shown that research is focusing on alternative uses for waste materials. This however makes maintenance culture a great void, damaging the environment and giving room for pests and all other harmful organism which are capable of carrying diseases causing damages to the human body system through infection. Artists have involved in the advocating for recycling of plastics to reduce the harmful effects in the environment. They have used plastic on a large scale severally to help solve environmental pollution crisis by promoting the recycling of non-biodegradable plastic. This paper explores plastic sculptures of two Nigerian sculptors, Clement Adesanya and Oligbinde Rotimi, towards their sustainability development in the built environment. Four works from each artist are selected and critically analyzed. The primary waste materials explored in this paper are HDPE (High-Density Polyethylene) used by Adesanya Clement and PET or PETE (Polyethylene Terephthalate) used by Oligbinde Rotimi of different colors and sizes. The secondary sources of data collection were gotten from articles, journals, e-Papers, text books, publications as well as materials downloaded from the internet were consulted to get more information on various areas.

Keywords: Wastes, Plastics, Waste Plastics, Recycling, Environmental Pollution

1.0 Introduction

The world population continues to grow at an unsustainable rate. Everything we use comes in plastic of some form-food wrapping; medical equipment wrapping; car part, electronics etc. and the more the population grows, the more plastic will be used. Rebecca (2023) writes that, “plastic pollution is a huge problem worldwide, and often, many of the plastics we throw into recycling bins are incinerated or end up in landfill”. One of the problems is that people are not taking cognizance how they dispose this plastics in the environment. “In 2050, humans are churning out trillions of pounds of plastic a year, and in the process emitting the greenhouse gas equivalent of over 600 coal-fired power plants” (Matt, 2023).

Theme: *African Solutions to Emerging Challenges: Building Viable Democratic, Economic, Information and Sustainable Systems in the 21st Century*



Proceedings of the 2nd (Hybrid) International Conference, Faculty of Social Sciences, Niger Delta University, Held on March 13, 2024

Ula (2022) posits that, “since the first factories began manufacturing polyester from petroleum in the 1950s, humans have produced an estimated 9.1 billion tons of plastic”. About seven percent of this plastics has been recycled, 10 percent has been incinerated releasing more toxics into the air according to researchers. Matthew (2023) also recalls that, “people collecting bottles which are not taken to the machines are contributing to the collection of more beverage containers and getting them off the streets”.

Matt (2023) elucidates that, “and as long as the plastics industry keeps producing exponentially more of it, there’s no incentive to keep the stuff in circulation. It’s just so cheap to manufacture, which is why recycling straight-up doesn’t work in its current form”. Tasneem (2022) documents that “the waste includes sachets, single-use utensils and personal care items, among others”. One of the dangers is that one does not know what kind of atmospheric affects these plastics produces but they release methane a known greenhouse gas in the environment. Emile (2020), quoting “AUT waste management expert Jeff Seadon says if you don’t dismantle e-waste correctly, heavy metals and toxins can get into the environment”. Researches show that plastic particles are showing in people’s blood vein, lungs, breast milk because we are surrounded by plastics. This has reduced the overall high standard of living by their harmful effects.

“The ecosystems of rivers, lakes, the air, and the soil are polluted with visible trash as well as micro plastics-and possibly even Nano plastics, which are in the same size-range as viruses” (Anja, 2021). Mostafa (2022) quoting “Sharif Jamil, general secretary of Bangladesh Paribesh Andolon, stated that the damage done to the rivers through plastic pollution is beyond words-killing aquatic life, halting navigation and depriving riverine people of their livelihood and inflicting diseases on them”. CBC News (2023) confirms that, “the most concrete ways citizens can help reduce the waste that goes into landfills is by recycling to use reusable cups and bags”.

Plastic has also been used by artists as a medium to create different magnificent art piece in different specialization of visual art. They have been used by various artists in time past some of which depicts socio-political issues among others to give effects and texture to their works. *Art* is a diverse range of human activities in creating visual, auditory or

Theme: *African Solutions to Emerging Challenges: Building Viable Democratic, Economic, Information and Sustainable Systems in the 21st Century*



Proceedings of the 2nd (Hybrid) International Conference, Faculty of Social Sciences, Niger Delta University, Held on March 13, 2024

performing artifacts artworks, expressing the author's imaginative or technical skill, intended to be appreciated for their beauty or emotional power. Art is requisite to life because it is life in itself. Art is not only for visual aesthetics pleasure but communicative in its content. It is a conveyor of feelings which should invoke a sense of reformation in our minds to practice physically.

This paper reveals a new creative media through the adaptation of plastic wastes. It is limited to the exploration of wastes plastic by cutting aforementioned into smaller bits and pieces, which serves as medium of expression in sculpture. The use of wastes plastic colour can be very viable means of converting waste materials for expression and depiction of cultural values and historical themes.

1.1 Statements of the Research Problem

“Non-recyclable plastics clog our landfills and our oceans, garbage which can take up 450 years to decompose” (Bud, 2023). The world produces about 700 million tonnes of plastics every year, and more than that is a single use plastic. This number is tending to increase by 80 percent before 2040. One major problem with plastic is that it is very easy to produce unlike other products and it's very hard to recycle and we are getting buried in our own waste plastics every day. These wastes are like a sleeping giant that we will have to deal with in years to come. Climate change is winning us, and we are just sitting there like we lost the game, we need to/can make the change, but we need to start from now and right away.

1.2 Objectives of the Study

The aim of this study is to explore waste plastics, with a view to broaden the scope of waste resource management/engagement for visual documentation. The objectives are therefore to:

- i. Identify various types of plastic
- ii. Sort, cut and clean this plastic
- iii. Identify the two works of the selected artist
- iv. Analyze various artists' works.

Theme: *African Solutions to Emerging Challenges: Building Viable Democratic, Economic, Information and Sustainable Systems in the 21st Century*



Proceedings of the 2nd (Hybrid) International Conference, Faculty of Social Sciences, Niger Delta University, Held on March 13, 2024

2.0 Literature review

2.1 Environmental Impacts of Waste Plastics

“Solid waste disposal is not something to be easily rubbished” (Lance, 2021). Even if the rate of recycling is doubled it might not meet up with the increase in consumption of plastic. One major problem is that the recycling industry recognizes at least 7 different types of plastic. Some can be recycled easily, others allegedly cannot. Tearing them all apart is impossible for the average citizen. Mixing them up, with the best will in the world, makes them extremely difficult to recycle into anything useful. One need to realize that plastic don't cause havoc when they are properly discarded but when traces from the production stage of this plastic, they emit natural gas.

Carla (2023) noted that, “at this point, there's no denying that plastic pollution is ubiquitous. It appears in the remote corners of the Earth, the food chain, and even human bodies”. To find a lasting solution to this, the issue of global waste plastics pollution must be given urgent attention to. Based on increase in urbanization and industrialization, the energy put to curb this menace maybe shortened due to the fact that production and consumption of this product has increased extremely.

Also, bio-degradable plastics when decomposing produces methane, a greenhouse gas which is toxic to the human nature. Plastic does not decompose, its biodegradable and when they breakdown they become micro plastic. “These plastics pieces are so small-less than 5 millimeters in size-that they can be transported by air, accumulate on the ocean floor, or end up in the food chain” (Carla, 2022). Because they appear in the air, the human ingests it, and studies have shown that micro plastics are inside the human body. They have been founded in the human blood and lung tissues. Though it is not certain if they are harmful to the human body but it gives use the kind of size of plastic that are found in the human, where it is located and will give verdict about its impacts to the human health. The PET is mostly responsible for this due to it breakdown in the environment.

Plastic burning is part of what causes air pollution within the environment. When this air is ingested, they cause respiratory tract problems and some of the symptoms are dermatitis or eye inflammation. Damian (2022) also recorded that “almost a million stillbirths a year can be attributed to air pollution, according to the first global study”. Most of the stillbirth that

Theme: *African Solutions to Emerging Challenges: Building Viable Democratic, Economic, Information and Sustainable Systems in the 21st Century*



Proceedings of the 2nd (Hybrid) International Conference, Faculty of Social Sciences, Niger Delta University, Held on March 13, 2024

happens are exposure to pollution from particles of about 4.5 microns, and has been traced to mostly burning of fossil fuels. How this happens is not yet certain but researchers believe that when this pollution particle passes through the placenta during conception, it damages the embryo which could also damage the placenta too. When there is air pollution, and the mother inhales these particles, she finds it very difficult to pass the oxygen to the baby.

Air pollution is also one of the major recognized environmental threats to the human health and we are witnessing its dilemma among the human organ systems. Researchers have confirmed that pollutions from traffic causes brain malfunction within hours. Ingesting of diesel vehicles and cars for just two hours causes brain damage. Brett (2023) claimed that “a new study by researchers at the University of British Columbia and University of Victoria has shown that common levels of traffic pollution can impair human brain function in only a matter of hours”. People need to be careful of their surroundings especially the air pollutants from car exhaust.

Brett (2023) recalls that “it’s important to ensure that your car’s air filter is in good working order, and if you are walking or biking down a busy street, consider diverting to less busy route”. People need to be mindful of the air they breathe in and be mindful of them. *Jodie et al.* (2023) also noted that “exposure to traffic-related air pollution (TRAP) has long been associated with a range of adverse health effects, principally cardiovascular and respiratory”. Fred (2023) also identifies that “rechargeable lithium-ion batteries are causing fires at solid waste and recycling facilities”. Also investment for recycling has dropped drastically and the reason because most of the waste centers do not have enough room to accommodate new and more waste plastics. And in recent times, the rate of unemployment has dropped resulting into having more waste to deal with.

Lastly, waste plastic when they breakdown they become micro plastic and they concentrate more in the marine life. When this fishes eat up these plastics, they threaten the human’s health after consumption.

2.2 Reducing Waste Plastics in the Environment

1. It is more advisable to focus on developing reusable products and reducing customer’s consumption than attempting to recycle. The reason being that recycling is not always

Theme: *African Solutions to Emerging Challenges: Building Viable Democratic, Economic, Information and Sustainable Systems in the 21st Century*



Proceedings of the 2nd (Hybrid) International Conference, Faculty of Social Sciences, Niger Delta University, Held on March 13, 2024

impact-free. It involves a lot of transportation, energy and water is needed also. Reduction is more advisable and better in anyways.

2. The government needs to see how they can enforce recycling as a habit among the people.
3. Having a uniform system for recycling to be followed by all local authorities would help to avoid confusion for householder, and would presumably be cheaper than everyone having their own contract and provider.
4. The government needs to educate the people on what they can recycle and what can be thrown away by releasing an app. Apps can help identify by scanning the barcode and will help you through your local authorities' rules.
5. There should be an introduction for smart recycling bin system which will alert the waste sector management when it is full. "This initiative would also resolve the issue of recycling plastic waste, which is highly commendable" (Subhadrika, 2023).
6. People should be taught how to maintain environmental friendly mentality as a citizen.
7. The government should start rewarding people each time they recycle their plastics. These will make people understand the urgency, need and why they need to have a free environment devoid of waste.
8. More education should be centered more on green education or some form of promotion on waste plastics recycling. This should be done both in the tertiary, secondary and primary and nursery level.
9. "The ability to remove branded single-use plastic (SUP) packaging is challenging but can be unlocked with partnerships and collaboration with producers and does not alter retailers' underlining drive to make quick and effective changes in reducing single-use plastics" (BBC, 2022).
10. Company's commitment to reducing waste plastics must be engaged. Some companies make promises but never fulfills it. Manufacturers of plastics and packaging should be forced to change production methods.
11. Companies can also introduce light weighting which is the practice whereby they reduce the volume of the plastic by making it thinner and lighter.
12. Companies should focus more on packaging to make it more recyclable.
13. Synthetic fabrics and carpets in our different homes should be reduced. The reason is that, synthetic fabrics and carpets harbors micro plastic and we spend almost 70 percent of our

Theme: *African Solutions to Emerging Challenges: Building Viable Democratic, Economic, Information and Sustainable Systems in the 21st Century*



Proceedings of the 2nd (Hybrid) International Conference, Faculty of Social Sciences, Niger Delta University, Held on March 13, 2024

time at home, and the plastic inside is much higher than those outside. Carla (2022) opines that, improving ventilation and increasing vacuum cleaner use may lower the concentration of micro plastics indoors, too.

14. Fred (2023) stated that, “both recycling and the expansion of the bottle law could be supported by making manufacturers cover the cost of collecting recyclables. He also stated that changing the system so that bottles could be sorted by material, such as glass, plastic or aluminum, rather than by brand”.
15. “We need to stop plastic production, gradually stop single-use plastics and bring in strong reuse systems which will become standard practice” (Will, 2020).

2.3 Reuse of Materials

The environmental damage of plastic has been the major headline of international news for years now. According to researchers, only 9 percent of the plastics ever produced had been recycled. Apart from the 10 percent of plastics that were incinerated, this connotes that all the plastics that had been produced either remains in the environment or the landfill continue to deface the surface of the earth. That is why researchers have come to a conclusion that the only major solution to this menace is to introduce the 3R’s which are to Reduce, Reuse and Recycle. Companies need to reduce the production of plastic and consumption at the same time. The concept of reusing materials did not just start from art, it started towards a consciousness of protecting and shielding the earth from environmental degradation. Reuse is another aspect of waste management. Reuse is when a product or a material is used all over again without altering any of its component or part.

According to Carla (2023), confirmed that “a number of companies recent explored creative ways to minimize their plastic use”. When you reuse, you don’t have to reprocess the material all over again. This means that the material or product must have high reuse strength to pass through weathering. Several artists on Nigerian landscape have registered their creativity within this sphere. Prominent among them are Raqib Basorun, El-Anatsui, Joseph Eze, David Dale, Adeola Balogun, and Muraina Akeem and so on.

Theme: *African Solutions to Emerging Challenges: Building Viable Democratic, Economic, Information and Sustainable Systems in the 21st Century*



Proceedings of the 2nd (Hybrid) International Conference, Faculty of Social Sciences, Niger Delta University, Held on March 13, 2024

3.0 Biography of the Artist's

Clement Olumide Adesanya is a contemporary artist with a virtual arts background from Obafemi Awolowo University, Ile-Ife, Osun state where he had his first and second degree in sculpture. Though he had his both National Diploma and Higher National Diploma at Yaba College of Technology, Yaba, Lagos State. He started drawing at a tender age and now has a wide range of sculptures which is mainly inspired by animals, nature and curiosity. His works are influenced by expressionism, and realism movement using discarded metal pieces found in the environment. His unique works are appealing and memorable. He hopes to inspire emerging artists around the world and also bring about socio-economic benefit to society through his artwork. Clement works entirely with discarded HDPE plastics (High-Density Polyethylene) which he cuts into different smaller sizes and bind together with the aid of a copper wire to make animal sculptures.

Oligbinde Samuel Rotimi is an educationist, a draughtsman, sculptor and an environmentalist. He was born in October 7th, in the late 90's. He is from Abeokuta, the Northern part of Ogun State. He attended his both primary and secondary school in Abeokuta, Ogun State. He attended Saint Bernadette for his primary and Taidob College for his secondary education. He obtained his both Undergraduate and Master's degree in sculpture from Obafemi Awolowo University. After his undergraduate degree he was posted to Auchi Polytechnic for his Youth Service Corps programme. It was while he was serving, he got exposed to new different waste materials in sculpture which made him to pursue more on waste plastics. He is a lecturer in Moshood Abiola Polytechnic where he teaches drawing and sculpture. Rotimi works with waste plastics to create animal forms to depict the degree we humans have damage the environment and the world at large with plastics. He specializes in PET (Polyethylene Terephthalate), whereby he collects these bottles in different environment and uses their cut bottoms to form animal sculptures.

4.0 Conceptual Analysis of the Artists Works

From Adesanya Clement and Oligbinde Rotimi, four works were selected and reviewed making it eight works in total. Their works entails sculpture in the round and they are all animals in representation. They have both mastered this art over the years making them voices for the nature and planet earth.

Theme: *African Solutions to Emerging Challenges: Building Viable Democratic, Economic, Information and Sustainable Systems in the 21st Century*



Proceedings of the 2nd (Hybrid) International Conference, Faculty of Social Sciences, Niger Delta University, Held on March 13, 2024

Rhinoceros (plate 1), is an artwork which explores the critical component of healthcare. In *Rhinoceros*, Clement shows us a delight in waste plastic, his personal commitment to promoting the sustainability of the planet earth can be viewed in his work. It is a statement that says you are going to become what you consume. “An environment that consumes natural products would eventually become an epitome of nature, while an environment that consumes synthetic products which cannot fully be degraded would equally flourish in its wastes” (Oligbinde *et al.*2022). The over life-size of the rhino describes the present day world, how we consume anything without stopping to think about its consequences.

In *Tortoise* (plate 2), Clement utilizes soldering iron and aluminum to bring out the natural look of a tortoise. The Lagos based artist creativity cut different plastic in various size and bind them together, to modelled a desired form, with different motifs and symbols. According to Clement, it is the passion and energy he put into every work. Discussing his work, he stated that when he first started sculpting as a young artist, he was doing it all for himself and for beauty sake. But when collectors and buyers started telling him how delighted they were having a piece of his work in their collections and different homes, it makes him feel more inspired to work more and rescue the environment. He wants to share his positive energy and he can only do that through sculpting. He uses the tortoise to depicts the human, the tortoise is a small animal in pace and the more time we take to rescue the energy the bigger its devastation on the human life.

In *Crocodile* (plate 3), Clement’s skill is evident in his ability to effortlessly weld metal and form a plastic around it to give it a desired form. Clements uses the crocodile to depict a raging waste in the environment. He stated that a time will come when these gentle wastes we drop anyhow in the environment will come back to charge, attack and hurt us. Everyone knows Crocodile to be a carnivorous wild animal and they are recorded to have the hardest bite of any living animal. When these waste plastic comes back to harm the people, the impact will be so devastating and it will take a longer time to curtail it.

In *Eja aaro (Catfish)* (plate 4), Clement continues to connect the people with fishes and the ocean life. He found out that for that connection to work effectively, the environmental waste could be a powerful tool. This work is also a kinetic sculpture which is powered by a spring and welded to a car rim. The work depicts the frigidity of fishes if they are suspended from their natural habitat meaning they might go into extinction. Researchers also asserted that when there

Theme: *African Solutions to Emerging Challenges: Building Viable Democratic, Economic, Information and Sustainable Systems in the 21st Century*



Proceedings of the 2nd (Hybrid) International Conference, Faculty of Social Sciences, Niger Delta University, Held on March 13, 2024

are clusters of plastics in the water it will become very difficult for fishes to navigate their ways around the water forcing them out of their habitat.

In *Ori (head)* (plate 5), Rotimi uses the head of a tilapia fish to depict a good metaphor of life. The Africans believe that the head is the seat of wisdom and it talks about identity in terms of family name and background. A head is found in every organization or group of men. In the family, the head is the father. The implication of being a head is to shoulder the problems of the followership. Irrespective of your own condition, the demand of leadership is to always be there whenever any need arises. Every head has an assignment. Rotimi uses his work to tell everyone that before you dump your waste in the environment, makes use of your head. Let your head direct you to the appropriate place to dispose it. He hopes that the present and coming generation will be wiser when it comes to making use of their head, and not to repeat the error their parents has made by not taking care of the environment.

In *The Agony of Mother Earth* (plate 6), Rotimi uses his work to offer hope in the face of climatic catastrophe and economic recession. His sculptural works are deeply personal, sometimes reflecting his own failures and the world as a subject. In his discussion, he stated that he hopes those that are coming behind will become wiser and more caring with the environment. It is his hope that people will be able to cover up some of the spaces they created and will be able to take drastic measures into looking for lasting solutions. In *The Agony of Mother Earth*, the work depicts three flamingoes looking so devastated by the damages caused to their habitat. They have no choice than to migrate to another environment to have a better living. The flamingoes represent the present world, meaning that when some people have destroyed their environment they travel to another environment to seek greener pasture.

Alert (plate 7) talks about environmental awareness. Alert is means that if an animal could be conscious of an impending danger ahead, then humans are not left out of the equation. Alert is executed in the public place of a university, and whose subject also affects the general public of that university. Inspired by his upbringing in Ogun State where animals are part of integral community history, Rotimi has created animals of different species to get people thinking about waste and consumption. He uses his work to preach environmental consciousness concerning every drop of waste we throw away anyhow without knowing its consequences.

In *Hard Work* (plate 8), Rotimi believes that from people day to day activities there are always leftover which as a result generates waste and needs to be thrown away and if he is going

Theme: *African Solutions to Emerging Challenges: Building Viable Democratic, Economic, Information and Sustainable Systems in the 21st Century*



Proceedings of the 2nd (Hybrid) International Conference, Faculty of Social Sciences, Niger Delta University, Held on March 13, 2024

to fight pollution in the environment, his work should help to address the issues. He uses his work to highlight experimentation of forms and a subject matter. His work *Hard Work* depicts the postures of an ant carrying what looks like a grain in his fangs walking and focusing towards a direction. In his discussion, Rotimi stated that he has been making studies on the ants in smaller sizes which allows him to consider blowing it up into bigger sizes. He uses the ant to represent every human not to be lazy but to take up the responsibility of having a good conducive environment. To make the environment a better place. Humans must not be lazy but get up, just like the ant that does not rest day and night but keeps working until they have achieved their desired aim.



Plate 1: Adesanya Clement, Rhinoceros, Crocodile, High-Density Polyethylene Plastic, Plastic, 430cmby180cmby120cm, 2015. **Photograph by:** Akin Bayo, 2023.



Plate 2: Adesanya Clement, Tortoise, High-Density Polyethylene Plastic, 200cmby150cmby60cm, 2014. **Photograph by:** Akin Bayo, 2023.



Plate3: Adesanya Clement, High-Density Polyethylene Plastic, 380cmby120cmby80cm, 2014. **Photograph by:** Akin Bayo, 2023.



Plate 4:Adesanya Clement, Eja aaro (Catfish), Agony of High-Density Polyethylene Plastic, plastic, 220cmby150cmby60cm, 2011. **Photograph by:** Akin Bayo, 2023.



Plate 5:Oligbinde Rotimi, Ori (Head) Waste PET plastic, 8ftby6ft, 2018. **Photograph by:** Alao Abel, 2023.



Plate 6:Oligbinde Rotimi, The Mother Earth, Waste PET plastic, 5ftby2ft, 2018. **Photograph by:** Alao Abel, 2023.

Theme: *African Solutions to Emerging Challenges: Building Viable Democratic, Economic, Information and Sustainable Systems in the 21st Century*



Proceedings of the 2nd (Hybrid) International Conference, Faculty of Social Sciences, Niger Delta University, Held on March 13, 2024



Plate 7:Oligbinde Rotimi, Alert, Waste PET plastic plastic, 13ftby4ftby9ft, 2019.
Photograph by: Alao Abel, 2023



Plate 8:Oligbinde Rotimi, Hard Work, Waste PET plastic, 9ftby5ft, 2018.
Photograph by: Alao Abel, 2023

Findings and Conclusion

The society has lost touch of plastic wastes around it and forgotten it is still their waiting for time to strike. This study has demonstrated that waste plastic can be a suitable material for visual expression. These materials have been explored to produce a creative work depicting different animals telling different stories about their environment in a realism form.

The artwork has also revealed the importance of recycling every discarded plastic material we come in contact with. Besides, it serves as a visual document in recording and narrating a part of environmental degradation. Also, this paper has succeeded in using two different types of waste plastic as an artistic media capable of expressing forms, interpreting themes and making self-expression possible. It therefore adds another expressive medium to the already existing painting media. The ultimate aim of such innovation is to broaden the scope of waste material exploration while initiating a method of waste control currently bedeviling the society. It is important to recycle the waste arising from this culture of consumerism to sustain the environment for the coming generation.

Recycling is necessary, but not sufficient effort. The reality is that, recycling is worthwhile, but it isn't and can't ever be a complete solution to the plastics problems. But reduction of consumption is the key. Recycling shouldn't be a problem that should be passed onto consumers to solve. Recycling only works if it is seen as an obligation that has a cost. Involving private companies that are trying to turn a profit from the process doesn't work. The only exception to that is scrap metal. Unfortunately, it is difficult to change people's

Theme: *African Solutions to Emerging Challenges: Building Viable Democratic, Economic, Information and Sustainable Systems in the 21st Century*



Proceedings of the 2nd (Hybrid) International Conference, Faculty of Social Sciences, Niger Delta University, Held on March 13, 2024

behavior. Everyone has the opportunity to recycle. if we are still not doing it enough we need to either put in our best. Recycling could work much better than it currently is.

References

- Anja, K. (2021).Book Review: Coming to Grips with the Plastic Crisis. An E-Paper, retrieved February 23rd, 2024, from <https://undark.org/2021/12/31/book-review-thicker-than-water/>.
- BBC (2022).The Big Plastic Count: Survey shows ‘Recycling doesn’t Work’. An E-Paper, retrieved February 5th, 2024, from <https://www.bbc.com/news/uk-england-bristol-64401049>.
- Brett, G. (2023). Even brief Exposure to Air Pollution has Rapid Impacts on the Brain. An E-Paper, retrieved February 18th, 2024, from <https://neurosciencenews.com/air-pollution-functional-connectivity-22355/>.
- Bud, F. (2023).Tucson is Revamping its Environmental Portfolio with an Eye for Clean Energy, Reduced Waste. An E-Paper, retrieved on February 16th, 2024 from, <https://www.kold.com/2023/01/26/tucson-is-revamping-its-environmental-portfolio-with-an-eye-clean-energy-reduced-waste/>.
- Carla, D. (2024).Micro Plastics have officially been found in our Bodies. Here’s what that means for Human Health. An E-Paper, retrieved on January 10th, 2024, from <https://www.popsci.com/environment/microplastic-human-health/?amp>.
- Carla, D. (2023).How Companies Greenwash their Plastic Pollution. An E-Paper, retrieved on February 18th, 2024, from <https://www.popsci.com/environment/plastic-greenwashing-recycle/?amp>.
- CBC News (2023).Metro Vancouver Lagging behind Goal of Diverting 80% of Waste from Landfills. An E-Paper, retrieved March 2rd, 2024, from <https://www.cbc.ca/news/canada/british-columbia/metro-vancouver-lagging-behind-goal-of-diverting-80-of-waste-from-landfills-1.6705434>.
- Damian, C.4 (2022).Air Pollution Linked to almost a Million Stillbirth a Year. An E-Paper, retrieved February 8th, 2024, from, <https://www.theguardian.com/environment/2022/nov/29/air-pollution-million-stillbirths-study>.
- Emile, D. (2020).The Details: New Zealand’s E-Waste Problem. An E-Paper, retrieved on January, 25th, 2024 from <https://i.stuff.co.nz/national/the-detail/119542951/the-detail-new-zealands-ewaste-problem?rm=a>.

Theme: *African Solutions to Emerging Challenges: Building Viable Democratic, Economic, Information and Sustainable Systems in the 21st Century*



Proceedings of the 2nd (Hybrid) International Conference, Faculty of Social Sciences, Niger Delta University, Held on March 13, 2024

- EPA (2019). Recycling Basics. Retrieved on January 12th, 2024, from <https://www.epa.gov/recycle/recycling-basics>.
- Fred, T. (2023). Vermont is not meeting its Goal of Recycling and Composting Half its Waste. An E-paper, retrieved on, February 20th, 2024, from <https://vtdigger.org/2023/01/25/vermont-is-not-meeting-its-goal-of-recycling-and-composting-half-its-waste/>.
- Jodie, G., Daniela, J.P., Jason, C., Ashleigh, P., & Chris, C. (2023). Brief Diesel Exhaust Exposure Acutely Impairs Functional Brain Connectivity in Humans: A Randomized Controlled Crossover Study. Environmental Health, <https://doi.org/10.1186/s12940-023-00961-4>. Pp.1-7
- Lance, G. B. (2021). Solid Waste Forum hopes to Help People Reduce, Reuse, Recycle. An E- Paper, retrieved on January 3rd, 2024, from <https://i.stuff.co.nz/national/explained/300783030/new-zealands-poor-recycling-record-costing-jobs-as-well-as-the-environment>.
- Matt, S. (2023). The Steep Cost of Bio-Based Plastics. An E-Paper, retrieved on February 14th, 2024 from <https://undark.org/2023/01/03/the-steep-cost-of-bio-based-plastics/>.
- Matthew, X. (2023). Over 20 Million Bottles and Cans returned for Recycling in two Months. An E-Paper, retrieved on February 14th, 2024, from <https://timesofmalta.com/articles/view/20-million-bottles-cans-returned-recycling-two-months.1009089>.
- Mostafa, Y. (2022). Plastic Pollution: Karnaphuli most Defiled. An E-Paper, retrieved Tuesday, January 24th, 2024, from <https://www.thedailystar.net/environment/pollution/water-pollution/news/plastic-pollution-karnaphul-most-defiled-3157391>.
- Oligbinde, S.R., & Adesanya, C.O. (2022). Environmental Management in Nigeria: An Artist's Response towards Recycling of Plastic Waste in the 21st Century. An International Journal for Research Publication and Reviews, an Online Published and Reviews, An Online Published in E-Journal, Impact Factor 5.536, Sr. NO: IJRPR 17313, ISSN 2582- 7421, volume 3, issue:11 November, PP. 2169-2175. www.ijrpr.com.
- Rebecca, A.H. (2023). New Solar-Powered Technology Can Transform Plastic Waste into Sustainable Fuels and Cosmetics. An E-Paper, retrieved on February 9th, 2024 from <https://www.euronews.com/green/2023/01/11/new-solar-powered-technology-can-tranform-plastic-waste-into-sustainable-fuels-and-cosmet>.

Theme: *African Solutions to Emerging Challenges: Building Viable Democratic, Economic, Information and Sustainable Systems in the 21st Century*



Proceedings of the 2nd (Hybrid) International Conference, Faculty of Social Sciences, Niger Delta University, Held on March 13, 2024

Subhadrika, S. (2023).Kolkata set to get its First Sensor-Fitted Public Smart Bin. An E-Paper, retrieved February, 20th, 2024, from <https://www.telegraphindia.com/my-kolkata/news/kolkata-set-to-get-its-first-sensor-fitted-publish-smart-bin/cid/1911924>.

Tasneem, T. (2022).Plastic Waste Mismanagement is Killing our Environment. An E-Paper retrieved on February 7th, 2024 from <https://www.thedailystar.net/opinion/views/closer-look/news/private-sector-plastic-killing-our-environment-3118081>.

Ula, C. (2022).Are Microbes the Future of Recycling? It's Complicated. An E-Paper, retrieved on February 14th, 2024 from <https://undark.org/2022/02/23/are-microbes-the-future-of-recycling-its-complicated/>.

Will, R. (2020).Coca-Cola, PepsiCo & Nestle named top Plastic Polluters. An E-Paper, retrieved on January 16th, 2024 from <https://www.bbc.co.uk/newsround/55218513>.

Authors' Profile

Oligbinde Samuel Rotimi is an educationist, a draughtsman, sculptor and an environmentalist. He was born in October 7th, in the late 90's. He is from Abeokuta, the Northern part of Ogun State. He attended his both primary and secondary school in Abeokuta, Ogun State. He attended Saint Bernadette for his primary and Taidob College for his secondary education. He obtained his both Undergraduate and Master's degree in sculpture from Obafemi Awolowo University. He is a lecturer in Moshood Abiola Polytechnic where he teaches drawing and sculpture. Rotimi works with waste plastics to create animal forms to depict the degree we humans have damage the environment and the world at large with plastics. He specializes in PET (Polyethylene Terephthalate), whereby he collects these bottles in different environment and uses their cut bottoms to form animal sculptures.

Ofili Emmanuel Jebechi is an educationist, a Potter, ceramist and an environmentalist. He was born in April 24th, 1988. He is from Onicha-Ugbo, the Northern part of Delta State. He attended his both primary and secondary school in Ojo, Lagos State. He attended Community Primary School for his primary education and Stokhan Comprehensive College for his secondary education. He obtained his Undergraduate at Delta State University, Abraka, Delta State in ceramics and his Master's degree in ceramics from Obafemi Awolowo University Ile-Ife Osun State. He is a lecturer in Delta State University of Science and Technology, Ozoro, Delta state where he teaches craft and ceramics. Emmanuel works with beads, clay and pottery shards using these aforementioned medium to create mosaics and forms on relief surface. Also, his work shows expression on what is happening in our day-to-day life especially in the Niger Delta Area where he hails from.

Theme: *African Solutions to Emerging Challenges: Building Viable Democratic, Economic, Information and Sustainable Systems in the 21st Century*