

Creative Arts And Effective Management Of Municipal Solid Waste A Study In Nsukka Urban, Enugu State

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ABSTRACT

Poor handling, disposal and management of municipal solid wastes give rise to pollution of the soil, air and water with attendant adverse effects such as the release of greenhouse gasses like methane into the atmosphere. Greenhouse gasses are culprits in global warming and climate change. Interventions in poor waste management situation as is manifest in many Nigerian urban areas demands input from all areas of human endeavour since wastes are generated by all. The study is an explorative action research which developed a curriculum embedding waste concepts and waste utilization to produce an environmental education bulletin used for learning with 100 children within the age range of 8 to 13 drawn from various public and private basic schools and children attending the University of Nigeria Children's Centre Library all in Nsukka Urban area of Enugu State, Nigeria. Results show that children are not adequately exposed to environmentally friendly and climate educational lessons as well as art and creative skills; however, they were excited and quick to learn. Several art materials and art products were created using wastes brought by the children from home using safe processes and in a safe

environment. The discoveries point to the need for curriculum innovation, advocacy and need for public action and demand for a clean environment. While waiting for policy and governmental action in that direction the research will further its work to improve on the Waste Management Bulletin, mass produce it for outreach programmers in willing schools to create Eco watch groups and in the long run the project hopes to establish a waste-to-arts-and-craft centre built on the philosophy of equality for all children, quality education, safe and beautiful environment.

KEY WORDS: Creative arts, effective management, municipal, solid waste

INTRODUCTION

Urban areas in Nigeria are witnessing environmental degradation due to improper disposal of municipal solid wastes (MSW)¹ emanating from human activities, poor handling, disposal and management of urban solid wastes which gives rise to pollution of the soil, air and water with its attendant nutritional, health, psychological and physical impact. Ross (2018) confirms that the protection of public health is of immense social significance as there are growing evidence that poor solid waste

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1. Municipal solid waste includes commercial and domestic wastes generated in municipal areas. They are solid or semi-solid waste materials, garbage, food waste, hospital wastes, etc and does not include industrial hazardous wastes and effluent.

handling and disposal practices lead to adverse public health impact. Also, the waste sector has a glaring role to play in the global climate change.

Unclean and waste ridden environment have become inherent trends in Nigeria with far reaching adverse effects, which are easily glossed over by Municipal and Federal government as well as other policy influencers who are yet to initiate policies using practice-oriented and creative approaches to relieve the problems caused by improper waste disposal and management. Although there are immediate the impacts of this practice, the harmful consequences for societies, economies and

future generations can be felt nationally, regionally and even globally.

Properly defining wastes today takes into cognizance the production and consumption processes where materials from a certain production can be utilised for another production process by a different entity and a situation where family A's consumption outcome can become useful for family B or for the production of an entirely new object of consumption. Waste definition takes into cognizance the circular economy concept. ²Waste is an inevitable consequence of our everyday life. It has become an indispensable outcome of everyday living, an unavoidable product of

Figure 1: Littered spaces consequences of poor waste disposal in cities.



2. The circular economy restorative and regenerative by design. Relying on system-wide innovation, it aims to redefine products and services to design waste out, while minimizing negative impacts. Underpinned by a transition to renewable energy sources, the circular model builds economic, natural and social capital, (Ellen MacArthur Foundation. 2017)

It is more pronounced in the 21st century due to the geometric rise in production of goods, services and materials as well as the resultant and ever-increasing consumerist behaviours of the present generation, unchecked urban migration and lack of environmental education in schools and homes.

Because we are focusing on education, a word about education and quality education will help our discourse. Quality education must encompass a robust creative arts curriculum starting from the early childhood educational levels. Although the 9-year curriculum on Cultural and Creative Arts (CCA)³ developed for the Universal Basic Education programme in Nigeria has specific topics on Care of the Environment and Recycling embedded in it, art education is not given prominence in basic schools. This deprivation perpetrates a society-wide art-illiteracy, anti-aesthetics, poor creative thinking and problem-solving skills depriving learners of the opportunity to achieve proper emotional development and cognitive achievement and core indicators of quality education. Martin (2014) enumerates ten benefits of arts education to every child's educational programme thus: Creativity, Improved Academic Performance, creativity skills spill over into other academic achievement, Motor Skills, Self Confidence, Decision-Making, Visual Learning, Perseverance, Focus, Collaboration, and Accountability.

A society-wide art illiteracy, anti-aesthetics, poor creative thinking and problem solving skills deprive young learners of proper

emotional and cognitive development needed for them to grow into useful adults, which in turn perpetuate the growing unemployment being experienced nationally.

Although the 9-year curriculum on Cultural and Creative Arts (CCA) developed for the Universal Basic Education programme has specific topics on Care of the Environment and Recycling embedded in it, basic school teachers are ill-equipped to achieve the learning goals and impact the skills demanded. A child exposed to the creative arts is also known to be more resilient than those who are not exposed and to buttress this assertion the Harvard Medical School example readily comes to mind. In 2015, Harvard launched a new initiative to use more drama, dance, and literature to help medical students become more empathetic and reflective doctors. In doing so, Harvard joins a growing number of schools making more overt efforts to weave arts and humanities into medical education (Bailey, 2015).

The American Planning Association (2014) states that "creative tools are now also being used more and more to promote community engagement with planning activities and goals. The use of creative tools - such as visual-art techniques, storytelling, festivals, exhibits, dance, spoken word, PhotoVoice, music, performances, web-based applications and community gatherings - emphasizes receptiveness to input, genuine acknowledgment of feedback, easy participation, and the development of relationships."

3. Cultural and Creative Arts (CCA) is a subject of study in the Basic and Junior Secondary Schools in Nigeria CCA integrates Music, Visual Arts, Drama, Dance and Literature in which a student is expected to grow into and with the cultural heritage of his people and acquire skills needed to function as responsible member of the society where they eventually find themselves as adults.

Twenty-nine (29) Government-approved privately-owned and 25 Government-owned public basic schools were used for the study all in the Nsukka urban area in Nsukka Local Government Area of Enugu State, Nigeria was used for the study.

The study population were 100 children randomly selected from different private and public schools in Nsukka urban area attending holiday classes at the University of Nigeria Children's Centre library. Head teachers from 29 Private Primary schools approved by the Enugu State Government Education Authority and 25 public schools. Preliminary information were also collected from different sectors of the urban area using a structured interview guide. These were subjects active in waste generation and management which included secondary school heads, hospitals, university staff and students, shop owners and heads of institutions, the Head of ESWAMA in Nsukka Local Government area.

Poor waste handling and management on the other hand has implications beyond poor sanitation which is not limited to toilet and water issues like aesthetics and in the age when global climate change issues are being discussed. The research, using an explorative action research method set out to solve the identified problems associated with:

- a. improper handling and disposal of municipal solid wastes,
 - b. lack of environmental education, and
 - c. improper creative arts education,
- Having envisioned success, we went ahead to develop and action plan which included:
- a. use of the most occurring solid

waste materials made available by pupils from their homes like paper, plastics as resource for art teaching and learning for basic education level pupils using a curriculum and lesson plan crafted for the same purpose.

- b. the use of folk and contemporary music and dance to teach children about proper waste disposal and separation.
- c. development of a waste management bulletin used to teach waste and waste management concepts.

The research went ahead to collect data and information from:

- a. school children, school heads and teachers
- b. Enugu State Waste Management Authority (ESWAMA)
- c. Energy Centre Staff of University of Nigeria Nsukka, and
- d. other waste generators from different walks of life on the urban area; it went ahead to analyse the data and information which formed the basis of the environmental art education intervention that yielded art materials (Waste-to-Art-to-Wealth) which the research embarked on, and equally from where conclusions, recommendations and suggestions for further action have been made.

Basic School Programme

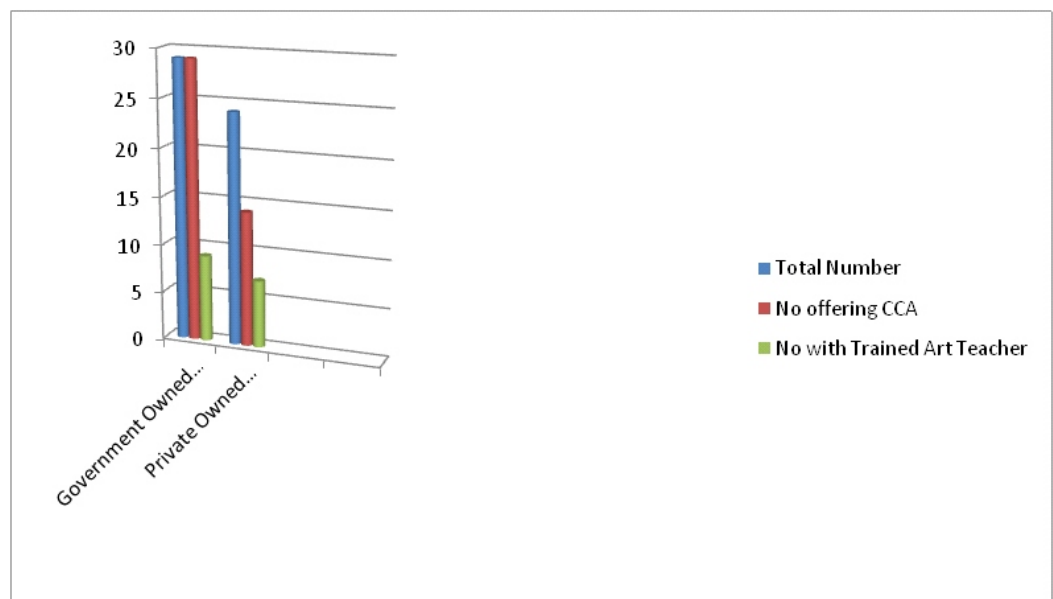
Children are social actors with a unique perspective and insight into their own reality. This recognition is borne out of an

acknowledgement of the benefits of involving community members and children in research processes (Save the Children.org, 2015). It is this understanding that strengthened the trust of this research to culminate in school children who are directly and mostly affected by the identified issues. Findings about art and environmental education teaching from the primary schools on Nsukka urban area is represented below. It shows that the total number of basic schools (registered with the Basic Education Board ENSUBEB) is fifty four (54) in 2016 while the government-owned public schools are twenty four (24) the privately owned government approved schools are twenty nine (29), with an estimated enrolment of more than 16,000 pupils (Enugu State Ministry of Education, 2014). All the government-owned public schools offer Cultural and Creative Arts because they follow the government-approved curriculum. However, all teachers

attached to classes attempt to teach all subjects, therefore the very few trained Cultural and Creative arts (CCA) educationists still teach other subjects like English and Arithmetic. Fourteen (14) privately-owned, government-approved schools teach Cultural and Creative Arts with only seven (7) schools having specialist art teachers some are on part-time basis. This scenario is not ideal for the proper teaching and learning of Creative Arts at the level where it makes the most impact on the learners as future citizens of our country. Observation reveals that:

- * Time allocated to creative arts is usually not enough for the duration of the subject considering that it is practice-oriented
- * Non Creative Arts teachers treat the subject with levity.
- * Heads of schools find it difficult to understand the importance of the

Figure 2: Art Learning and Teaching in Government Approved Public and Private Schools in Nsukka Urban Area



A group interview was conducted with hundred (100) children; five groups of twenty (20) primary school pupils each attending holiday lessons at the University of Nigeria Women's Centre. The discussion questions attempted to ascertain their knowledge of and understanding of the concepts of art, wastes and creative up cycling in their schools, at home and in the urban area. Each group had twenty pupils answer eleven (11) questions and an art

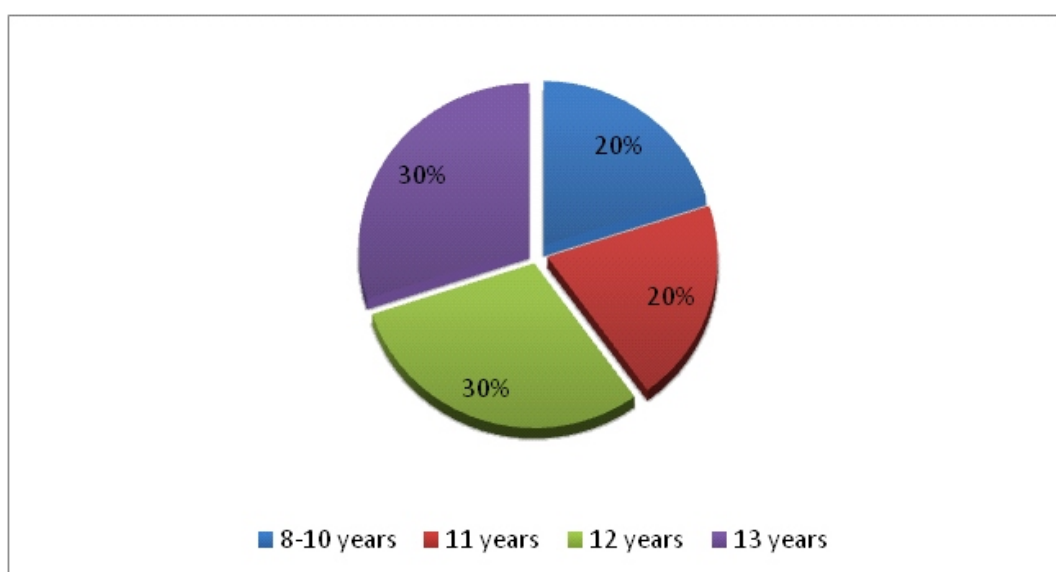
session where wastes were used to produce creative objects and art.

They responded to the question by raising their hands to support an answer or suggestion given by a member of the group. These questions helped to bring out what concepts of wastes they have, what association they make of waste and art and if they learn art in their schools and what art intervention there is in the urban schools. 3 results of the interview is shown below in

Figure 3: Researcher taking a group session with the children at the Children's Library, University of Nigeria, Nsukka



Figure 4: shows the age range of pupils which ranged from 8-10, 11, 12 and 13 years with the specific ages distributed below:



10 years olds made up 20% of the respondent, 11 years 20%, while 12 years olds were both 30% of the respondents.

Figure 4 shows the respondents perception of how to dispose while 50 pupils which is 50% of the respondents says wastes are thrown out all wastes together just about 20 percent agree to separate them in two bins and a considerably large number had no response to the questions

Figure 5: How wastes are disposed of

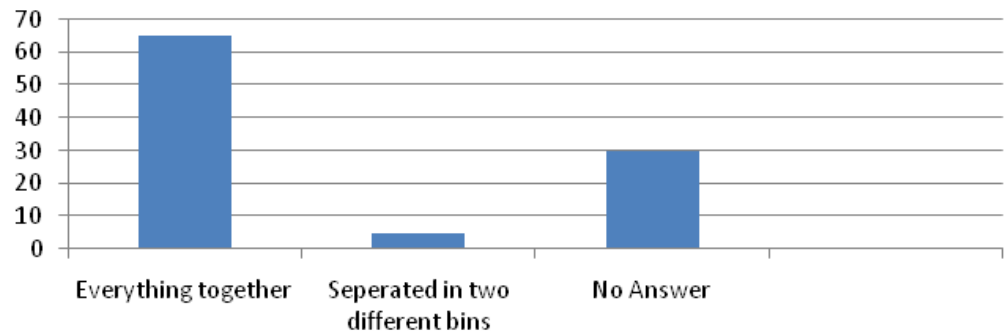
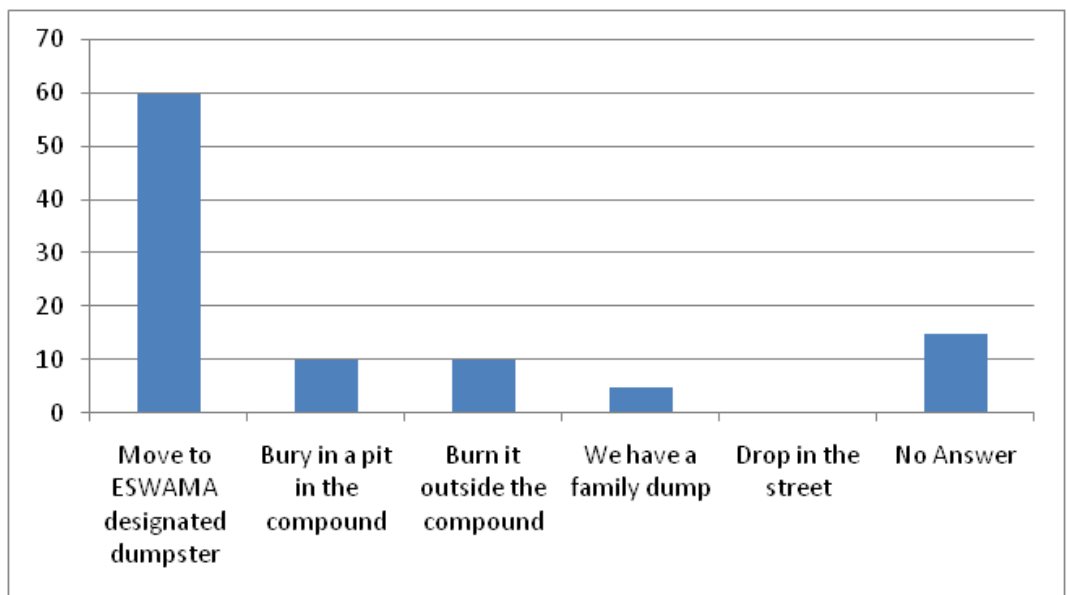


Figure 6: What happens to wastes after you dispose them?



Waste to Art to Wealth

The research utilized the most occurring solid wastes found in the urban environment and as they were presented by school pupils in the art project as art material and resource which gave rise to processes and art outcomes. Waste materials like paper, light plastics, clothes and drink cans were presented by the pupils.

Figure 7: Woven crafts and art produced during the learning



Figure 8: Researcher drilling through paper beads with children



Figure 9: Plastic bottle tops being used to learn about Colour by a child



Figure 10: Researcher assisting a pupil to set up his work created out of lunch pack waste



Figure 11: Waste Management bulletin Page 1

Up cycle

When Artists produce arts and crafts with wastes materials, the process is called up cycling, everything that is recycled can be upcycled.

Many Artists in Nsukka and those who passed through the University of Nigeria, Nsukka do up cycling. Some of them are Amuche Ngwu-Anabuzze, Dlamprizua (Isokman), Eva Obodo, Nwenna Okoro, Bright Eke Ugochukwu (Isokman) and many others. There is a big artist called El Anatsui who focuses things from Nsukka environment to create great art works. His works are known across the world.

We can also make wonderful artworks with things that we throw away. That way, we will be helping the environment, ourselves and the future generation by reducing environmental degradation and pollution caused by improper waste disposal and creating beauty instead.

Engage Wastes Creatively Be Environmentally Conscious!

You can upcycle by:

- making paper beads and paper mache
- weaving clothes cuttings and plastics
- creating collage with wrappers
- weaving baskets
- making hand fans with cartons
- etc

Clean Wastes

If wastes are separated by waste generators, clean wastes are created:

- the job of waste management personnel is made easier, the process of reusing, recycling, upcycling and proper disposal is possible and easy, wastes are less putrid, dirty and smelly
- It gives scavengers some dignity in their status
- It makes waste treatment easier
- It reduces the amount wastes in the waste dumps which waste management authority like ESWAMA have to handle
- It has economic benefits
- It has health benefits
- It has artistic benefits as artists can use certain wastes for upcycling
- above all it has environmental benefits.

Clean Energy

Biogas is gas produced from waste materials called methane, it is a source of energy with one of the lowest relative carbon footprints of all. Methane can be burnt cleanly on simple stoves, producing mainly carbon dioxide and water, making it a very clean household fuel. Energy Centre at the University of Nigeria, Nsukka is doing a lot of research on waste materials that can be used for biogas production.

The waste biogas is relatively perfect, different wastes can be used and they are easily available.

www.purdue.edu, www.mhfi.edu, www.ambroscopio.com, www.ambroscopio.com, www.ambroscopio.com

Contact: 07031960449

AMA Approach
• art • music • announcement

art education waste environment
Combating Municipal Solid Waste Problems through Art Education

AMA Waste Concepts

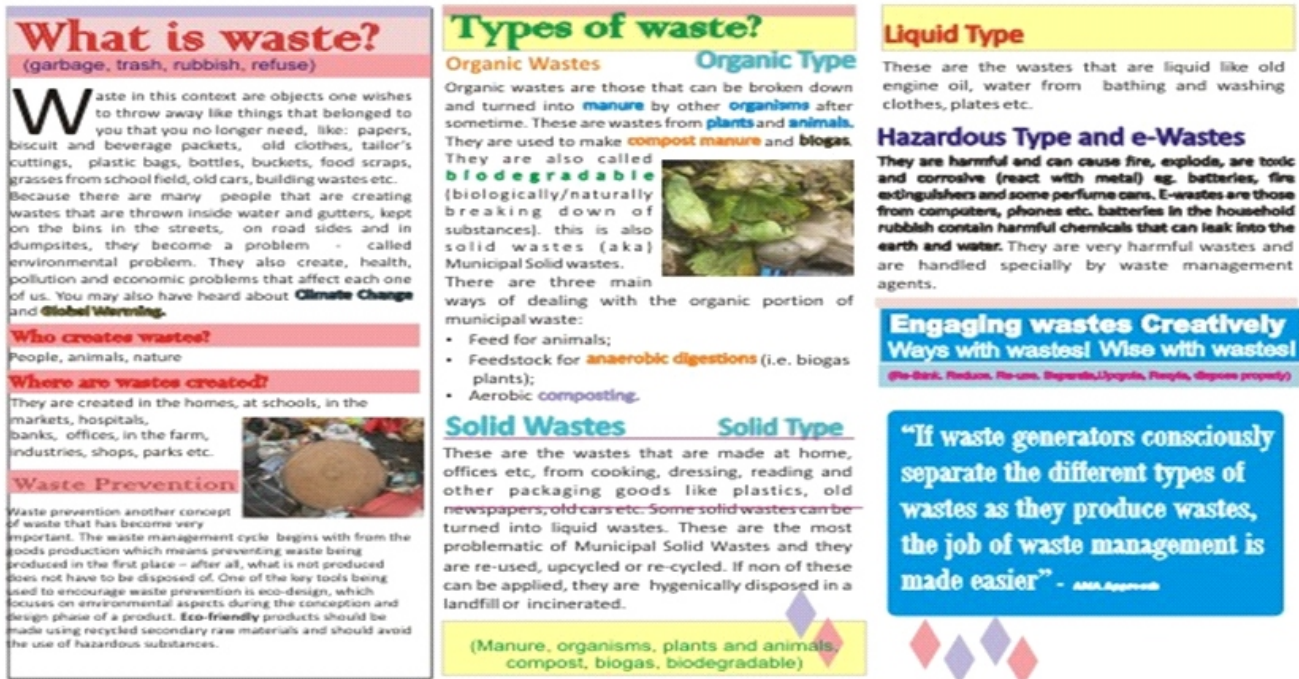
- **Reduce** the amount of wastes created. Use what is absolutely necessary
- **Separate** - separating wastes from each other to make recycling, recycling, composting possible and easy
- **Reuse** look for ways to re-use wastes before throwing away
- **Upcycle:** use wastes to create crafts and artworks
- **Recycle:** take wastes to where it can be broken down and used to manufacture new articles

WASTE DISPOSAL COLOURS for Recycling

**Do not LITTER the environment!
Keep the atmosphere clean!**

Recycle again, recycle again and can collect new recyclable materials like water and pay to reuse energy.

Figure 12: Waste Management Bulletin page 2



- While the Sustainable Development Goals SDG GOAL 11 stresses the issue of sustainable cities and communities with further indicators as percentage of urban solid waste regularly collected and well managed and the primary goal target to make cities and human settlements inclusive, safe, resilient and sustainable. Also the Child Rights Convention (CRC) Article 29 includes components directly related to proper education and environmental safety which states that state parties agree that the education of the child shall be directed to:
- * The development of the child's personality, talents and mental and physical abilities to their fullest potential;
 - * The development of respect for human rights and fundamental freedoms, and for the principles enshrined in the Charter of the United Nations;
 - * The development of respect for the natural environment
- Despite the above, environmental hygiene and waste management is usually not part of the indices that policy makers and influencers in Nigeria look out for when assessing the sanitation and educational standards in schools. This points to the fact that these very essential and far reaching indicators of well-being is still being glossed over.
- Children's role in society is quite limited; however, society recognizes children as the leaders of tomorrow. Bearing the believe of researchers that children are social actors with a unique perspective and insight into their own reality, the research recommends an upgrade or modification of the Cultural and Creative Art curriculum at every level of education to not only include learning about waste management, environmental conservation but also practical ways to individually and

collectively handle environmental issues properly as well as other learning challenges so as to make these learners creative thinkers and problem solvers rather than passive learners. Creative/arts education should be mandatory at all stages of the Early Childhood and Basic Education Centres so as to nurture the artist in every child and therefore who the child grows up to become so that our own society in future is made up of problem-solving, creative thinking men and women.

According to Dewey (1934), every person is capable of being an artist, living an artful life of social interaction that benefits and thereby beautifies the world. That beauty promotes art as a catalyst to realms beyond the physical. Harnessing this artist in every individual can improve art learning, improve the learning of other learned subjects, make art a tool in waste management in order to bring more beauty and order, thereby building a better environmentally conscious and friendly populace. Waste separation of MSW into degradable and non-degradables as we await the prospects of recycling programmes. Upcycling should be practiced in schools. A lot of curriculum innovation have gone into childhood education to encompass the climate education aspects which should also be imbibed by school boards in all states of the federation.

Government and the education authority should adapt and recommend the weaving of the palm frond baskets as part of the schools creative art curriculum, to encourage individuals, pupils, homes, cooperate organisations and schools to utilise same as waste collection materials in

their various locations.

Bins should be coloured appropriately in the streets, and residents should be encouraged to use the bins appropriately for disposal by instituting and sustaining an environmental police force.

All Schools in Nsukka urban area should create model composting pits and farming yards to contain their decomposing wastes and teach children practical cropping especially in this era of climate change and food shortage.

Education Ministry should make Cultural and Creative Arts a compulsory subject and ensure or enforce its being followed with the recommended curriculum thoroughly covered for the first 6 years of school.

For students studying Fine/Creative arts in tertiary institutions a course should be created that is aimed at up cycling wastes in a large scale.

Announcements should be made in churches, mosques, markets, motor parks, streets, schools, to raise awareness on the best practices and concepts of waste handling, disposal and management through word of mouth, publications, Radio jingles, should also be carried out constantly.

Announcements should start and continue at school assemblies in order to become part of their daily activities and further bridge the gap between the learned subject and practice or action. Also, taking cognisance of the immediate and long term needs for the knowledge being impacted both for the pupils and the society, a weekly, monthly or an annual sensitisation programme should be instituted between

artists, waste management officers, Agricultural and Municipal governance to continually keep people informed and monitor improvements.

More research should be undertaken in this vein to improve on findings.

This way the hidden child poverty of incomplete education and pollution may reduce.

Future Action Plan

While waiting for policy and governmental action the project will further its work in the following ways:

Short term

- * Improve on the Waste Management Bulletin and multiply for outreach programmes in schools
- * Work with willing schools to create Eco watch groups

Long Term

- * Recreational art and craft centre with focus on proper waste handling by inculcating the idea of separation of waste from source.
- * Advocacy for inclusion and enforcement of environmental education in the curriculum
- * Advocacy for a law regulating the use of light plastics and its use for preparing food for children like the staple food "okpa, moi-moi, etc.
- * Advocacy for proper waste management starting from a sanitary landfill in the urban area which idea can be replicated in other cities.

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