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## Adopting Comic- Style Illustrations for Promoting Environmental Sustainability

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### **Abstract:**

*Today, much attention is being given to environmental sustainability by researchers and policy makers. However, many citizens in the third world environments like Nigeria are yet negligent in their attitude towards the environment which is evident in their unguided disposal of municipal wastes. Therefore, this paper focuses on the application of graphical, comic-style, illustrations as a tool for the creation of awareness on improper waste disposal. The study proposes specific illustrations that depict various harmful human activities carried out on a daily in the environment and the harmful effects negative human activities could have on human lives using a child in order to provoke reaction among adults and parents. The effect it could have on the environment was as well depicted, however, illustrating the sustainable practices every member of the public should participate in. Concept, choice of illustration, choice of colour and choice of text that led to the successful illustration were further explored.*

**Keywords:** Comics, environmental education, illustration, sustainable practices, sustainability

### **1. Introduction**

Environmental preservation has become a critical issue for the survival of the world's habitat (Oladumiye, Ogunlade and Omole, 2017). Yet, environments in third world countries like Nigeria still suffer major degradations which endanger sustainability (Odji, 2019). Increased generation and improper disposal of municipal solid wastes is a major cause of environmental degradation. However, with proper environmental awareness creation, activities which endanger the sustainability of the environment may be alleviated. Interestingly, media may be efficient in passing information and orientating members of the public on basic environmental maintenance. With the use of media, visual communication has proven to be more effective through different platforms such as television, internet, books, poster and several others to communicate to viewers. Comic-style illustration as an aspect of visual communication, emerged as a means of communicating to people on these various platform. Visual communication has been found to be superior to verbal communication when communicating environmental issues due to its ability of providing information pertaining to different occurrences when one cannot be physically present (Zeynep, 2015). Furthermore, the emergence of technology has enhanced learning process and the role of visual communication as a learning aid cannot be exempted considering the fact that it improves learning and stimulates thinking (Michael, Rosanalia and Allen 2014).

Visual communication as a learning aid in the educational sector remains significant as Noha (2017) identified visual aids as an important tool for assimilating complex subject matters. Thus, identifying the ability of media to improve interaction, participation among students. However, the Nigerian population is a mixed multitude made up of both educated and grossly uneducated people who may find it very difficult to read, old and young, having careful or nonchalant attitudes towards the environment. Therefore, an effective means, which will appeal to such mixed multitude, is required. People are known to relate more with realist images as human perception of things comes from the visual observation of their surroundings (Zeynep, 2015). Although, learning has not only been useful in classroom but has also been effective among the people with little or no classroom experience. In Madagascar, Tobias (2016) findings using comic style illustration to educate farmers showed effective, as learning was made easier and language barrier was reduced. Therefore, this paper proposes graphical, comic-style, illustrations as a tool for the creation of awareness on improper waste disposal as a means of promoting environmental sustainability.

### 1.1. Role of Comics in Communication

Comics have been used in the past years to communicate to various people of different intellectual level and category. Adopting comics as a teaching material in education perspective proved to be effective when used as classroom strategy and also in different areas such as media, cognitive psychology and literary studies (Matteo, 2018). Michael et al (2014) listed that comics in education plays the role of attention getting and critical thinking which promotes intellectual interaction and discussion on understanding ideas and concepts hence, enhances finding solution to issues. Finding solutions to issues which could mean proper assimilation of the subject matter which have been broken down through series of pictures.

The potential of comics or cartoons can be recognized in communicating healthcare information in Africa such as malaria, cholera, raise awareness on HIV/AIDs and on clean environment among the public for a sustainable health development (Akpobo, 2015). Over time, comics are used as narratives to address sensitive objects in science as they are easy to remember than expository arguments (Matteo, 2018).

## 2. Method

This study adopted a practice led design which cuts across creation of comic-style illustration. Illustration designs such as human activities degrading the environment and sustainable practices were created with emphasis on human lives and the environment. Kure, which comprises of Akure South and Akure North, was the study area of the research and the message illustrated is directed to the entire public for individual use. This study serves as a foundation for further research work especially in the application of the created comic-style illustrations.

## 3. Results and Discussion

The strategy used for this research work involved observing the human activities endangering and causing nuisance to the environment. Prominent amongst those activities were:

- Indiscriminate dumping of wastes in unauthorized locations such as drainages, roadsides, uncompleted buildings, river channels, etc.
- Open air burning

Comic-style illustrations were then used to represent such activities as well as the negative effects they may have on both the environment and human health as a means of increasing environmental awareness and promoting daily sustainable practices among the public.

### 3.1. Conceptualization

Before the commencement of a design, there must be a concept behind it, hence this research is not left out in this. This section interprets the various activities carried out by humans in the environment by presenting them in sketches and conceptualizing the design.

To achieve a sustainable environment, it requires collective effort of people within a community towards tackling environmental issues and getting members to participate is the first step towards sustainability. The concept behind this design is to promote a sustainable environment through the use of comic illustration. The reason for the comic selection is the fact that people easily relates to pictures, even children or teenagers could easily read through and understand the message, which consequently sensitize to be environmentally conscious. This is supported by Tobias (2016), stating that '*misunderstanding of visual narratives may occur when objects drawn are not realistic enough, or if the statement is abstract or only presented from a scientific point of view*'. Therefore, it is best in communicating to various people of different intellectual level as well as bridge the different language barrier.

#### 3.1.1. Choice of Illustration

The choice of illustration used were drawn out of the research problem and the need to address the issue of the environment degradation by indiscriminate disposal of waste causing aesthetic nuisance to the environment and reducing the sustainability of such an environment and the world at large. The first stage of the ideation process was to gather the firsthand information gotten on field by observation. Obviously, living in a dirty environment is injurious to health, however some people have decided to be ignorant and turn a blind eye to the effect of an unhealthy environment. Hence, educating the people on the importance of a healthy environment and the negative effect it can have on people. In order to persuade users, children were used to appeal to the sub conscious mind of parents.

Also, it was important to address the effect of improper waste disposal on the environment both on local and global level. Sustainable practices amongst the residents were further used as a solution which was to ensure that their wastes are properly managed. All of these are put together in order to tell a story and at the same time educate the users.

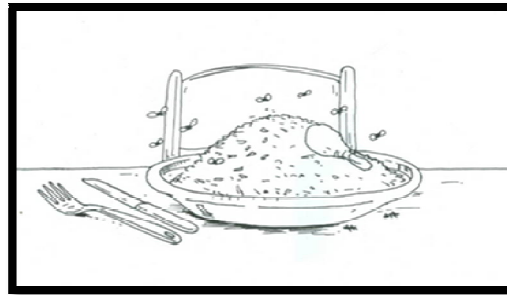
### 3.1.1.1. Sketches Used as Illustration for Enlightenment



*Figure 1: Dumping Waste Indiscriminately in an Unapproved Location*

*Source: Ario, Blessing Chidubem (2019)*

This illustration is the main aim driving this research which serves as the research problem. Looking around the environment, it is glaring how individuals dump and dispose wastes indiscriminately at strategic places, for instance, at virtually every junction most especially within the business areas. Hence, this illustration was depicted to represent the human activities in the municipal and also form a narrative from it because some of the environmental issues we are battling with emanated from improper management of wastes.



*Figure 2: Flies, Over Uncovered Food*

*Source: Ario, Blessing Chidubem (2019)*

As reviewed in the literature by Awosusi (2010), dirty environment serve as breeding grounds for rodents, flies and other disease carrier insects. This illustration therefore depicts human food being contaminated by flies due to nearness to dumpsites. However, there are more underlying ways in which food can be contaminated, but for clearer understanding open food was used for this enlightenment.



*Figure 3: Child Eating Contaminated Food*

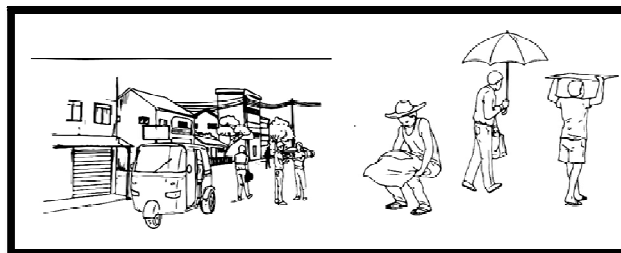
*Source: Ario, Blessing Chidubem (2019)*

Contaminated food is being ingested by a child innocently in this illustration. Although adults are not exempted from ingesting contaminated food but in order to speak to people's subconscious minds and provoke reaction, prompted the use of a child. Children most times are careless and may not know the full implication of flies perching on their food, and there are cases where the child leaves his food uncovered to play, then coming back to the food to continue from where he stopped. On the part of the parents too, they may be careless by leaving food, both cooked and unprocessed uncovered which can be easily contaminated. Hence, contaminated food could be very dangerous to health by causing various kind of sicknesses and even death.



*Figure 4: Waste Burning*  
 Source: Ario, Blessing Chidubem (2019)

This illustration represents the public alternative method of keeping the environment clean which is by burning waste generated. Residents believed that burning wastes, dumping wastes in water bodies or illegal dumpsites is a means of keeping the environment clean, that is, their immediate environment clean. However, burning wastes and other substances could affect the environment which could accumulate to form carbon emission and green house effect and by that adding to the environmental issues we are currently experiencing in the form of climate change.



*Figure 5: Humans Going on Their Daily Activities*  
 Source: Ario, Blessing Chidubem (2019)

Here, this illustration depicts the effects that could arise due to incessant waste burning, which could affect human daily activities. By this illustration, it implies the depletion of the ozone layer and as result, the sun intensity could be harsh as we are currently experiencing.



*Figure 6: Dry Land*  
 Source: Ario, Blessing Chidubem (2019)

The sketch portrays the water land drying up, this signifies that due to the intensity of the sun and the variation in climate, the land which is meant to be fertile could be futile and might not support lives if humans do not desist from the degrading activities they engage in.



*Figure 7: Proper Disposal of Waste*  
 Source: Ario, Blessing Chidubem (2019)

However, with all the drawings previously made, which indicated the implication of improper disposal of waste on human health and environment. This prompted the above illustration, signifying a first-hand solution that could be easily carried out by individuals to promote a sustainable living and that is getting a waste basket. Waste basket is encouraged in this illustration in order to contain and keep their waste properly while awaiting the arrival of waste collection truck.



*Figure 8: Waste Collection*  
Source: Ario, Blessing Chidubem (2019)

This illustration is to encourage residents to dispose their waste properly by waiting patiently for the arrival of the waste collection truck and convey their waste to the truck rather than dumping the waste at their junctions or along the street.

### 3.2. Choice of Text

The choice of text was based on the message intended to pass across to users about a healthy environment which also serve as an interpretation and support to the illustration created. The first step was to identify the intended users, of which has been identified as adults. Hence, it requires a typeface that can be legible and easy to read with clean, straight and concise shapes. The atmosphere where the visual communication design will be used, that is, the reading environment was as well considered which was used to determine the font size. Two different fonts which are Arial and Aileron were selected for the purpose of the design.

### 3.3. Colour Selection

The concept of using various colours was inspired by the environment and since the research is about design for social change, towards promoting a sustainable practices within the environment, then it is only appropriate to relate the colours to the familiar visual image within the environment. A good design involves putting into consideration the element and principles of design, this therefore guided the illustration and colour selection for the pamphlet design. This visual pamphlet illustration is however a little different from other forms of designs such as designs for posters, magazines, logo, books, flyers amongst several others. The choice of colours for such designs are based on the type of message the designer wants to pass across, the brand the design represents as well as the platform the design will be used, such as web design.

Hence, the idea of this design is to use green as a dominant colour as green signifies lives thus sustainability of the green environment (Alice and Osmud, 2010), knowing well that a green environment symbolizes lives. For clearer understanding, colours within the environment were used, for instance; the colour of the grassland is mostly green, the sky colour which is blue, the State Waste Agency preferred colour which is orange colour, the dry land which is brown as well as the colour of smoke which is grey and sun which is yellow alongside other gradients. All these were carefully put together to depict a close to real life image.

Furthermore, the colours used ranged from dark colours to bright colours, and in general are exciting colours. These exciting colours were selected and used so users can feel connected to them and keep their spirits alive.

### 3.4. Compilation of Coloured Sketches



*Figure 9: Colour Choice for Figure 1*  
Source: Ario, Blessing Chidubem (2019)

Since the style of the illustrations are close to real life image, thus colours that could easily be found in an environment and at the same time appealing to the eyes were used. This illustration depicting human degrading action

within the environment such as disposing municipal solid wastes by the road side, aimed at revealing ethnographic actions. Hence, the Brown colour on the humans were used because we are of the black nation so users can relate so well with it knowing fully well the illustration is directed at them. Wastes are unwanted materials and because the type of waste being addressed here is the municipal solid wastes which consists of different colours and substances, thus inspired the colours used. The Green, Brown, Red, Grey and Purple colours were all mixed up to create an illusion of wastes which do not have a particular colour. Blue colour was used to represent the sky and the colour of the sky in reality inspired the colour selection. For the floor, Grey colour which is impassive was selected to give an illusion of a concrete floor while the grey and black colour on the buildings and wall as well as other colours used were selected out of adding aesthetics to the design and complementing the colours in the design.

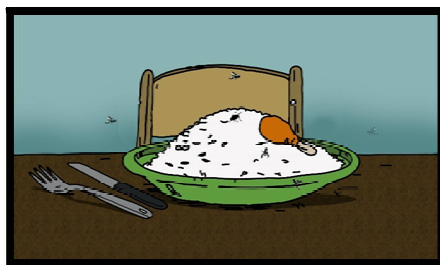


Figure 10: Colour choice for Figure 2  
Source: Ario, Blessing Chidubem (2019)

What inspired this colour selection mainly was the message needed to be passed across. Looking at this image, one can see food, flies hovering around the food, table, chair and wall in which mostly around the study area, the preferred colour for wooden material is brown, thus the use of brown to depict the chair and the table. Grey colour was adopted for the cutlery to give a metal impression while the white food indicates the colour of cooked rice at the same time blend well with other colour. Blue colour is used to represent calmness (Cameron, 2010), therefore, the light blue colour on the wall was used to relax and calm the users.

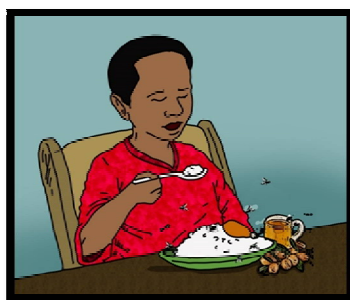


Figure 11: Colour Choice for Figure 3  
Source: Ario, Blessing Chidubem (2019)

This is the continuation of the previous figure and the difference in this figure is the child. As stated earlier, the Brown colour on the child was selected to depict African for easy interpretation while the Red colour on the cloth was selected to give a warm, powerful and strong impression as against being associated with danger, anger and mourning (Cameron, 2010).



Figure 12: Colour Choice for Figure 4  
Source: Ario, Blessing Chidubem (2019)

The colour of fire comprises of red, yellow and orange, thus the figure here depicts humans setting their wastes on fire. The light Blue colour implies calming nature as well as depicts the sky in reality. Dark grey colour is often considered neutral in design (Jennifer, 2010) but in this illustration, it was used to depict the flames emitting as a result of burning wastes thus implying the release of carbon into the atmosphere due to such action which is dangerous to human

health. Brown colour is associated to earthiness, hence the selection of brown to depict the floor and add warmth to the illustration.



Figure 13: Colour Choice for Figure 5  
Source: Ario, Blessing Chidubem (2019)

As stated in the previous figure, Brown as a colour is associated to earth which inspired the selection of colour in this illustration. This illustration can be seen to have more highlight and this was to give the impression of the sun intensity as a result of global warming. The Yellow color was used to depict a known communal shuttle while the colours on the houses and human clothes were selected to complement the design and add aesthetics as well.



Figure 14: Colour Choice for Figure 6  
Source: Ario, Blessing Chidubem (2019)

The major colour in this illustration is light shade of Brown which is an eco-colour (Alice et al, 2010) and also implies earthiness. The colour was used to depict a futile soil as a result of global warming hence affecting fertility which put farming and agriculture at danger for humans. Furthermore, judging from the colour of the trees as well, it implies that the trees are dying due to the global effect on them. The light Blue colour signifies peace calmness and used to represent the sky.

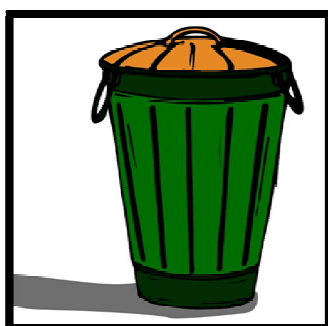


Figure 15: Colour Choice for Figure 7  
Source: Ario, Blessing Chidubem (2019)

The concept of sustainability influenced the colour choice for this illustration. In order to sustain the environment, first is to have a waste container to store in wastes. People, sometimes, indiscriminately dump wastes because there are no waste containers in their immediate environments. Therefore, Green colour was used to represent renewal sustainability. The Brown colour for the waste container lid was selected to represent environmental friendliness and dependability as it is an eco-colour.



Figure 16: Colour Choice for Figure 7  
Source: Ario, Blessing Chidubem (2019)

This illustration describes proper disposal of waste and supports promotion of sustainable practices hence the use of Green and Brown colour. Red and Blue are powerful colours used when trying to pass a strong message across due to their strong nature (Cameron, 2010).



Figure 17: Colour Choice for Figure 8  
Source: Ario, Blessing Chidubem (2019)

Just as other choice of colour selection in the previous figure s were all drawn from the environment, thus, this illustration is not left out. The truck was given a Yellow and Orange colour due to the observed colour frequently used in the study area. This colour is an established colour and even the daily street sweepers and waste agency workers are seen in Orange colour overall clothing. All the juxtaposed colour were all used for easy translation of message being passed across to users

### 3.5. Document Format

The illustration artworks varies in different sizes and were created in vector graphics using the Adobe Illustrator, therefore, the size can still be maintained even if enlarged into a bigger size.

### 3.6. Proposed Adaptation

The comics created in this study were meant strictly to serve as samples as what is eventually adopted in any environmental media campaign is dependent on specific locations and the target population. Comic-style illustrations may be adopted in the following ways for example:

- Web-banners
- Comic books
- Illustrative Posters
- Newspaper/magazines illustrations and
- 2D Animations

## 4. Conclusion

Comic-style illustration emerged as a result of telling narratives and, over the years, has evolved from traditional style of illustration such as pencil illustration, wood etching, lithography to the modern style of illustration such as vector graphics and free-hand illustration (Bilyana, 2017). Furthermore, some graphic designers adopts both the traditional and new method style of illustration. Irrespective of the method adopted, the major aim is to efficiently communicate visually to the target audience ensuring the design principles and elements are in accordance. The environment is being compromised having a negative effect on human lives, climate change is occurring fast, diseases and viruses are in the air and threatening humans survival, hence, adopting illustration method as an aspect of visual communication in raising



awareness on human daily activities known to be dangerous which may prove effective in educating the public should be encouraged. Therefore, adopting the style proposed in this study, this paper recommends that comic character that could serve as environmental heroes could be used to increase environmental consciousness amongst children. Also, comic-style illustration on environmental education among children and adults should be created to further encourage them towards basic hygiene and how to continuously care for their environment.

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