

**PRODUCTION OF DRAWING MEDIA FROM BEET-ROOT AND
TURMERIC PLANT MATERIALS AT KYAMBOGO UNIVERSITY**

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**A THESIS SUBMITTED TO GRADUTE SCHOOL IN FULFILLMENT OF
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DECLARATION

This thesis titled, “Production of Drawing Media from the Beetroot and Turmeric Plant Material at Kyambogo University is my original work and has never been presented for a degree in any other University.

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APPROVAL

We as University supervisors confirm the work done by candidate under our supervision.

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Date:

Signature:

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Date:

DEDICATION

This thesis is dedicated to my family, most especially the parents; Rev. Musisi Wilson and Mrs. Ida Harriet Musisi, my wife, Mrs. Nanjobe Jennet Mugabi, my children and all my siblings. It is also to the administration and staff of St. Jonah High School Namugongo.

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ABSTRACT

The study was aimed at producing media extracted from Beetroot bulb and Turmeric rhizome plants materials for drawing and was carried out at the Department of Art and Industrial Design, Kyambogo University. The researcher went ahead to look at possibilities of using media extracted from these bulb and rhizomes as an alternative material for drawing on different surfaces such as cloth canvas, hard papers, bond 80gsm paper, and polythene paper. In this pursuit, the researcher considered the use of Beetroot and Turmeric plant material as media, which was experimented on by examining the Trend of drawing done using extracted media; Artist using extracted media from nature for art production, and finally the production of art works using extracted media from the selected plants. The researcher went ahead to present an overview and analysis of the prevailing literature regarding the drawing media. The methodology employed in the study was descriptive in nature; it was satisfied by the identified and employed population sample, instruments of data collection, area of study, and studio exploration to extract media from Beetroot and Turmeric plants carried out at Kyambogo University. The researcher presented, interpreted and discussed studio findings of the study; through drawings of Beetroot, Turmeric, Fish, Banana plant and Goat as inspirational objects in this thesis. The study presented a summary of major findings in relation to the research questions raised in chapter one; that sought to show the studio possibilities of using extracts from Beetroot bulb and Turmeric rhizome as media for drawing. The discussion in chapter five of this study led to the following conclusion: there are practical possibilities of extracting and using natural media from Beetroot bulb and Turmeric rhizome as medium for drawing. The media produced can effectively give the required shades and tints on various surfaces in drawing the research recommends that there is more need to experiment with and use other natural materials more especially in higher schools and institutions in Uganda for not only drawing substances but also surface support and display in drawing. The study will encourage artists to extend drawing media to the world outside the studios and to have a critical and intellectual mind of thinking.

CHAPTER ONE: INTRODUCTION

1.0 Overview

This chapter presents the following; the background of the study, statement to the problem, purpose of study, objectives of the study, studio guide questions, scope of study, and significances of the study limitation, and definitions of terms. The background presents the historic context and the analysis of key words in the title of this study.

1.1 Background of the study

The study dealt with extracting media from Beetroot bulb and Turmeric rhizome natural materials that were tested through drawings presented in this thesis. The study was carried out in the two years at the Department of Art and Industrial Design, Kyambogo University.

Drawing is as old as the existence of humankind, hence the production of drawing media started at the beginning of man's quest to express him through Drawing worldwide. Several media have been produced, used and lived with, in the Drawing practices. Without a doubt, drawing media has been significant in the visual art industry for a very long time. Media for Drawing can be extracted so that it is used alongside if not substitute with synthetic media produced worldwide from an abundant natural material. This is seen in course descriptions for the first and second semester of the Drawing works presented at the exhibitions. Much as that is done, this research is to add value to Drawing in Ugandan and to equip artists with knowledge and skills on the use of drawing material.

The Art students have shown increased appreciation and remarkable improvement in using drawing media. The researcher acknowledges the effort which has been made by the Department of Art and Industrial Design to improve the standards of drawing media, as scholars, we need to distinguish drawing media from conventional materials and drawing media emanating from our emotional reaction to the observed world. Art student in the first and second year, need to be encouraged to work with using natural material to master the skills of observation and accuracy. The students in the third year should be encouraged to work with using natural material. This will allow them to extend drawing media to the world outside the studios and to have a critical and intellectual mind of thinking. The study selected and used Beetroot bulb and Turmeric rhizome natural materials to produce a media for Drawing.

Beetroot is the taproot portion of a Beet plant usually known in North America as the beet, and also known as the table-beet, garden-beet, sugar beet, red-beet, dinner beet or golden-beet. (Gledhill,2008) *Beta* is the ancient Latin name for beets, possibly of Celtic origin, becoming *bête* in Old English around 1400 A.D (Stebbig,2010



Figure 1: Beetroot plant and cross section of beetroot

Source: photo by the researcher (2019)

Turmeric is a flowering plant known as a spice to flavor particular foods especially curries and give them a yellow color. It is commonly known as the ginger family *zingiberaceae*, the roots of which are used in cooking. (Priyadarsini, 2014). Furthermore, he explains that, the plant is perennial, rhizomatous, plant native to the Indian subcontinent and Southeast Asia, that requires temperatures between 20 and 30 °C (68 and 86 °F) and a considerable amount of annual rainfall to thrive.



Figure 2: Turmeric plant and rhizome
Source: photo by the researcher (2019)

1.1.1 Historical Background

Drawing media has a deep historical background worldwide. Since the pre-historical drawings on caves, man has made meaningful marks and colored those using natural materials on various types of surfaces. In this sense, people talk of drawing media in caves; a study of painting such as those found at Chevet cave, in southern France contains some of earliest known cave paintings in the world based on radio carbon dating the oldest drawings in the cave may be to 32,000 years old. Jean-Marie and his team discovered these in 1994; they contain images of both animals and plants using extracted natural material. (Benjamin, 2008) The natural materials for drawing which were commonly used when drawing was blood, sap, colored soil, ash, animal waste among others. These colored media were used to draw themes that express or symbolize ideas. The materials used as media for drawing were in wet and dry forms, which were carefully selected for drawing exercises and adequately prepared before use. (Kandinsky, 2012)

In Africa, most of the drawn works that were done in the traditional African societies seems to have been destroyed. They might have been using materials that decayed and likely, they were not kept in protected shelters. The only trace of drawn works is found in LaasGaal a complex of caves and rock shelters in northeastern Somalia that contain some of the earliest known rock art in the Horn of Africa and the African continent in general. The Pre Historic cave

drawings are estimated to be between 11,000 and 5,000 years old. The cave drawing is excellently preserved and retains their clear outline and strong colors using natural materials. (Elizabeth, 2010)

History reveals that human beings have for centuries been drawing using extracted media from nature as source of both inspirations and media; Plants have been utilized as both spacemen and extracted media. Blood and colored soils especially were used to fill incised images on rocks at Africa's rock art heritage; Africa has the greatest diversity of rock art of any continent on earth, also has some of the world's oldest rock art image of animals on stones that were excavated in Namibia and have dated to around 27,000 years old. It is also estimated that there are over 10 million individual painted and engraved images in Africa. The biggest concentrations on rock art are found in the Sahara Desert and in Southern Africa, but there is also important rocks art in East and Central Africa. (Gillon, 1984). Figure 3 below shows some drawings on the rocks;



Figure 3: Africa's Rock Art Heritage
Source: Trust for African Rock Art (TARA)

Drawing as a product and practice has evolved from incised rock art using blood and few natural materials to hundreds of contemporary surfaces and media. In Kenya now those who have gone to school and learned the western style of expression are doing most Drawing. They are drawing mainly with manmade manufactured material on various surfaces, such as paper, walls and canvases. Individual artists who keep on experimenting with ideas, materials and media do the drawings and it is difficult to classify them into categories, which reflect schools of

thought. What is common about them is that they are drawn for sale to collectors who buy for reasons, which are obscure to the artists.

(Obonyo, 2010)

The practice of drawing from nature and using natural materials in Uganda is as old as the images at Nyero rock art exist. Ancient artists observed and used the sun, moon and other natural features in their representations. Plant features such as foliage and stems/ flowers and leaves plantation in the compositions. The common example of a life style that relates closely to drawing using extracted natural material would be the process of creating Nyero rock paintings, one among a few visible records of art discovered in archaeological sites within Uganda and East Africa. Evidence regarding the Nyero rock paintings has been recorded in Uganda, major historical archives like the National Museum and many others privately owned within and outside the country (Keyence, 2003). It should be noted that while they are called paintings, the images seen in figure 4 below were drawn and therefore, can be regarded as drawing.



Figure 4: Nyero Rock Painting (1976)
Source: Trust for African Rock Art by TARA.

The Nyero Rock painting contains specific evidence of materials, surfaces that were used by artists living in Uganda before the coming of white explorers and missionaries. It is geographically divided into three areas of historical significance, which include; Nyero (1), (2), and (3) as stated by Sassoon. Nyero 1 is a small shelter formed by a low overhanging rock. On the outer edge of the over overhang there are six set of concentric circles, all rather crudely drawn in white paint medium figure IV above); two of these groups have a series of loops surrounding the outer circle. There are also three long sausage-shaped segments (Posnanski & Nelson, 1968).

The researcher observed that during the contemporary times, some students at higher institution of learning have utilized some plants and animal inspirations from nature as media respectively for production of drawings. The researcher take on the study after realizing that natural materials for drawing if properly exploited at these institutions specifically Kyambogo University, the art students will not only have a broad spectrum of choice for drawing but will also go through the extraction experiments in a simple and systematic manner. It is worthy to note also that students can freely and properly exploit creative ways of applying the extracted substance and thus be exposed to the numerous possibilities that can be obtained from natural materials such as turmeric and beetroot plants. The researcher argues that drawing from plants should extend further purposively beyond drawing from natural forms to production of extracted media for drawing. This was the reason why this research was indented to produce Drawing media so that it can help learners in executing their works with ease.

1.2 Statement of the problem

Whereas there are plenty and abundant natural materials in the environment from which media can be extracted, most artists engaged in Drawing tend to rely on only factory and imported media. In Kyambogo University and especially in Department of Art and Industrial Design, Drawing is a core course unit emphasizing increased innovations; few student's artists execute their artworks using extracted natural material. According to documentation of previous four years; drawing is mainly done using industrial made medium, and this has been done since time memorial. The art students have continued using imported, expensive and sometimes counterfeit graphite pencils, color pastel, ink, and crayon on the market, among others in executing their works. Because of this, the researcher noted reluctance among art students within and outside the institution to use locally extracted mediums from abundant natural features such as plants in drawing. This therefore prompted a need for an exploration of natural materials for media that can be used for Drawing at higher institutions of learning.

1.3 Purpose of the study

The purpose of the study was to produce media extracted from Beetroot and Turmeric plant materials for Drawing.

1.4 Objective of the study

The objectives of the study were to:

- i) Examine the trend of Drawing done using extracted media from natural materials.
- ii) Find out why few art students use extracted media from nature for Drawing at Kyambogo University.
- iii) Extract Drawing media from Beetroot and Turmeric plant materials.

1.5 Studio Guide Questions

- i) What is the trend of Drawings done using extracted media from natural material?
- ii) Why do few Art students use extracted media from nature to produce Drawing at Kyambogo University?
- iii) How can Drawing media be produced from Beetroot and Turmeric plant materials?

1.6 Significance of the study

The study was intended for the category of people who are to benefit in the following ways:

- 1 The artists will be able to explore studio possibilities of using extracted media from nature for production of drawing work. It was hoped that the findings would benefit the following categories of people: such as practicing artists, art teacher among others for reference.
- 2 The researcher would use the findings of this study as references for more research. Using media extracted from nature in higher institution of learning such as Beetroot and Turmeric plant material. In Kyambogo University mainly at the Department of Art Design artist could use this study to produce media out of different natural materials.
- 3 The innovation findings would create jobs for many artists who are unemployed for example by using extracted media from natural features. This helps the artists to produce more media from nature such as Beetroot and Turmeric plant at the Department of Art The researcher was to highlight and educate the public about Ugandan natural forms extracted from plants. These help instructors when they employ effective learning techniques in their classroom setting more especially at Kyambogo University Industrial Design.

- 4 The researcher would also use the findings to add value to Ugandan artists to equip them with knowledge and skills, which will enable them to be self-reliant. The researcher also used the finding to promote awareness of the extracted media values to the people of Uganda more especially the art students.
- 5 This would allow them to extend drawing media knowledge to the world outside the studios and to have a critical and intellectual mind of thinking at the Department of Art Industrial Design Kyambogo University.
- 6 Finally, this study might be helpful to the visual art industry in Uganda in training and informing artists on the creative use of Drawings natural media as well as create a new market for client on what to look for when soliciting artist's media to use in Drawing. In addition, importantly, this research might educate art students on what to look for when using media for drawing.

1.7 Scope of Study

1.7.1 Geographical scope

The study was based at Kyambogo University, Department of Art and Industrial Design but for purposes of reference, it was extended to other Art institutions within Kampala. Kyambogo University is a public institution of learning, established by the Universities and other Tertiary Institutions Act 2001 the Universities and other Tertiary Institutions, Instruments of 2003. The University is situated along Jinja road, seven kilometers away from and east of Kampala Capital City. It is strategically located in the central region of Uganda and would provide an almost perfect representation of the visual art background for many institutions in Uganda, because of its development and infrastructure. This exposes Kyambogo University to all cultures and people of Uganda. It is also affiliated to a number of institutions around Uganda such as Kaliro, Nkozi, Soroti Teacher Training College among other; and has nurtured many teachers for art at all levels in Uganda.

1.7.2 Content scope

The content scope of this project was based on the identified objectives of study.

The researcher examined the trend of Drawing done using extracted media from nature. The following particulars were investigated: The use of drawing media in Kyambogo University, as it relates with natural material. The reason why the researcher chose to use Beetroot bulb and

Turmeric rhizome plant materials for drawing was that the student's artist has not properly exploited natural material in their art works.

Through review of historic background up to contemporary drawing, the researcher observed the trend of drawings done using extracted media from nature. He also picked information from artist student through the questionnaire.

The researcher found out why few art students used extracted media from nature for art production. At the Department of Art and Industrial Design, within this the following aspects were analyzed: the attitude of student artists towards Drawing media, and the reasons as to why they use natural materials for Drawing. The researcher used extracted media from Beetroot and Turmeric plant materials. These were images of Banana plant, goat and fish on different surfaces. It is because few student artists have used nature in their drawing artwork most especially at Kyambogo University.

1.7.3 Time scope

The research was carried out between five years from this period many art students had graduated. A lot of practice had been grasped in methods of producing extracted media this time was divided according to the research proposal writing, data collection, studio experimentation, analysis and interpretation of findings, writing up a research report and it implied a standard way of imparting and experimenting Drawing media in visual art knowledge across schools and institution more especially at Kyambogo University. This gave me motivation of doing this research.

1.8 Limitation

- Some of the drawing in this study was related with those in the past, which were not aimed at justifying use of media extracted from natural material such as Beetroot and Turmeric plant.
- The types of media used for Drawing in this study are regularly different from those they use in schools and institutions of higher learning more especially at Kyambogo University.
- There is time consuming and sometime expensive to carry out the research in some area like Kyambogo University.
- In some places respondent may put a show if they get to know that the researcher is observing something in their community.

1.9 Definition of operational terms.

- **Beetroot:** Is the small round dark red root of a plant eaten cooked as a vegetable, or can be define as the taproot portion of a Beet plant usually known in North America as the beet and also known as the table garden beet, sugar beet, redroot, dinner beet, or golden beet.
- **Drawing:** Is a work of art that is complete in itself or objects, which can be observed, appreciated and sold.
- **Exploration:** This is done with the intention of examining something in order to find out more about it.
- **Extraction:** The act or process of removing or obtaining something from something by which ink, pigment or color are delivered into the drawing surface
- **Production:** refers to the action of manufacturing from components or raw materials; it can also mean the method of turning raw materials into finished goods in a manufacturing process.
- **Turmeric:** Is a flowering plant known as a spice to flavor particular foods especially curry and give them a yellow color.

CHAPTER TWO: LITERATURE REVIEW

2.0 Overview

In this chapter, the researcher presents the theoretical framework on which the study is based. He also discusses the prevailing literature from different scholars related to drawing and is in view of the objectives of the study. That is; to examine the trend of drawings done using extracted media from nature, secondly, to find out why few students of art used extracted media from nature for art production at Kyambogo University and finally to produce drawing media from Beetroot and Turmeric plant materials.

In reviewing the relevant literature, materials were drawn from several sources for the researcher believed that any relevant literature irrespective of the source could still be substantial to form a basis of the study. An attempt was made to fill the research gaps between the past writers and the present situation.

2.1 The trend of Drawings done using extracted media from nature.

Wikipedia (2010) the online dictionary states;

The purpose of the Paleolithic cave paintings is not known. The evidence suggests that they were not merely decorations of living areas, since the caves in which they been found do not have signs of ongoing habitation. They are in areas of caves that are not easily accessed. Some theories hold that they may have been a way of communicating with others, while other theories ascribe them a religious or ceremonial purpose.

Another example of a lifestyle that relates closely to drawing using natural media would be the process of creating Nyero rock painting, one among a few visible records of art discovered in archaeological site with Uganda and East Africa. Evidence regarding the Nyero rock paintings has been recorded in Uganda's major historical archives like the national museum and many others privately owned within and outside the country. The researcher chose to produce Beetroot and Turmeric plant.

Sassoon (1972) states that;

When one considers the laborious and complicated methods, which the Negro artist is obliged to employ, his achievements seem all the more admirable. Everything is done patiently by hand, with utter dedication, elaborate artisanship and love. He uses the material at his disposal with consummate skill.

Artists probably experimented using various plants and this does not rule out the possibility that they may have created pigments for drawing out of plants and animal blood as well as other media such as Beetroot and Turmeric plant. There was a great achievement by the researcher to think of the media .it helped the artist of the time to be more creative. This gave the researcher courage to produce the media using natural material.

Various shades of red can be obtained by powdering naturally occurring mineral oxides or iron carbonates. White paintings in granite country are probably of Kaolin, the product of the weathering of Feldspar. The painters probably mixed their pigments with fat to obtain good flowing paint rather than to preserve the paintings. The colors may be made waterproof by the addition of gum or some other vegetable products or even animal's fat. The paint appears to have been applied or barbed with fingers. (Burkett, 1972)

ibid (1972) adds;

Sassoon was stated above that man at the time explored animal and plant life for various uses, which reinforces Burkett's observation earlier regarding the source of material for drawing being from animal and plant life. With the discovery of fire during that early period, and the use of small dry twigs for cooking, charcoal may have been extensively used for drawing and owing to the fact it can easily be washed away by water, heavy, winds or growing molds on rotting surfaces there is not much evidence of it.

According to Silka (2015);

The development of nature drawing follows two different schools Chinese landscape painting and western art. The famous nature painting falls in various categories animal's species and new discoveries of the world, to stunning examples of the abstract landscape painting and the most celebrated nonfigurative paintings of the 20th century. A pure

fascination for artist, nature is a great setting onto which inner feelings and progressive ideas of the new aesthetic language and trends can be imprinted.

The point of development of nature helps art student to widen the scope of thinking to create original media from natural material. This gave the researcher courage to continue exploring of the extracted natural materials from different plants in order to form media for drawing. This can help student artists not to limit themselves by using manufactured media, which are expensive, and some counterfeits on the market. They can start investigating and shafting nature of light and the perception of pure color in their artwork in this they learn the new technique and promote direct contact to nature and develop new trend in artwork.

According to Honore (1978);

Charcoal line can be thin or thick to velvety back if Charcoal is used on a paper with tooth or heavy grain, the results are textured, and He used charcoal to create the drawing fright.

This was a great achievement by man to think about the use of charcoal as a media, and it helped people of that time to be more creative. The artist today should also copy the same idea in order to produce media out of natural material. This gave the researcher courage to extract the natural material from the Beetroot and Turmeric for drawing at the Department of Art Industrial Design Kyambogo University.

Duncan (2005) argues that;

My interest in the nature of representing play, as well as abstract concepts in general, arose from nature. A review of literature revealed that researchers routinely use drawing as a way of obtaining data.

The interest in using nature play a big role as well as abstract concepts in general, the use of drawings done using extracted media from nature encourages the artist to use natural materials from different plants in order to produce media such as Beetroot and Turmeric plant at the Department of Art Industrial Design Kyambogo University.

Noonan (2016) observes that;

‘In this study, the competitive and vigorous nature of organized physical activities appeared particularly’.

The competitive and vigorous nature of organized physical activities helped artist of that time to be more creative, in their artworks. Most art students practically use their skills to produce media extracted from natural materials. This gave the researcher courage to produce media extracted from nature using natural materials such as Beetroot and Turmeric plant at the Department of Art Industrial Design Kyambogo University.

2.3 Artists using extracted media from nature for art production.

Orchards (2010) posits that;

Some artists draw almost exclusively in one favorite material, whereas others experiment widely and are eager to try each new medium that comes along. It would be difficult to say much a choice of material influences the resulting work. Of course, the potential for expression comes from with the artist, not from any substance, but it is nevertheless true that different media tend to produce particular effects.

This was a great achievement by some art students, who draw almost exclusively using one favorite material, and experiment widely eager to try each new medium that comes along. The resulting work of material influences many artists to produce different media out of natural material. The researcher chose to produce media from the Beetroot and Turmeric plant as choice of material for drawing using natural materials more especially at the Department of Art Industrial Design Kyambogo University.

According to Nishant (2017) laments that.

It is always fun to find new ways to be creative and new art supplies to do it with. However, you do not have to spend a lot to find cool new thing to use that may be right in your home.

This is a great achievement in ways to be creative and identifying new ways of forming media extracted from nature. Artist become more creative in producing new media .out of natural material the work exposed a weakness in using factory media. This gave the researcher; the courage to continue explores the Beetroot and Turmeric using natural material in order to produce drawing media. At the Department of Art Industrial Design.

Lutea, (2016) states that;

After the pigments have been extracted from the plants under the care and his tag reflects the organic origin in of the materials used to media.

The pigment that is extracted from plant material helps the artist to reflect the organic origin of the material produced by the artist. The natural material extracted from nature, is taken under care and reflects the use material. The researcher emphasizes pigments that were used then which are commonly used today in drawing, by using Beetroot and Turmeric plant material.

Botella (2018) laments that;

“Our goal is identifying the specific nature of the artistic artworks of application, or stages extracted from the scientific literature on creativity”.

Artist should know their goals and to identify the specific natural material to use in their artworks for application, and production of extracted media. Through producing artist extract media in stages, they end up being creative in their work. This helped student artist of the time to be more creative. This gave the researcher courage to produce the media from natural features for production such as Beetroot and Turmeric plant.

Tyler (2012) observes that;

Visual art learning is reliant on a complex system of perceptual imprinted in human nature, the act of experiencing art and nature network of cognitive processing for the brain of the artist.

The visual art learning on a complex system of perceptual from nature is by means of the artists, which may be called the act of experiencing art and nature network of cognitive processing for the brain of the artist. The perceptual can only be executed practically and proven viable through extracting natural material such as Beetroot and Turmeric more especially at the Department of Art Industrial Design.

Lisbon (2015) states that;

We asked artists around the globe about their roles as an artist in their local museum of natural History “it

a human urge to express emotion through the medium of mark making.

The artists around the globe about their roles as an artist in using natural material for production, they express emotion through the medium, which they use. This helped the researcher during the study to continue using extracted media from nature for art production. Such as Beetroot and Turmeric plant at the Department of Art and Industrial Design Kyambogo University.

House (2015) cites that;

“The use of arts-based learning to develop creativity innovation, and collaborative leadership on organizations a creative”.

The use of arts media extracted from nature for art production is based on learning to develop creativity innovation. This innovation saved time for artist and it helped the researcher during the study to extract media using natural material for production. At the Department of Art Industrial Design Kyambogo University, such as Beetroot Turmeric plant

Samantha (2020) observes that:

The revival of natural media application on textiles and using natural dye pigments extraction, mordanting review of relevant literature on the vegetable dye yielding of *Alteraria alternate* in methanol solvers media.

The point of revival of natural media helps to widen the scope of thinking and apply it on textile and different material using nature and pigments extract in methanol solver media. Especially at Kyambogo University art student extract natural material to produce media such as Beetroot and Turmeric for drawing. Through extracting media artist mordant with producing new media for use.

2.4 Production of artworks using extracted media from nature

According to Burkitt (1972) states;

Artists probably experimented using various plants and this does not rule out the possibility that they may have created pigments for drawing out of plants and animal blood as well as other media.

Various shades of colour can be obtained by powdering naturally occurring materials. This was a great achievement by the artists to experimenting using various natural materials for their artwork. It helped the artists of this time to be more creative. More especially At Kyambogo University. This gave the researcher the courage to explore the Beetroot and Turmeric plants using natural materials.

Tokalama, (2015) laments that;

Artists have tried to produce different shades of yellow colored using the colorant extracted from chili skin. Oleoresins are an oil soluble extract from the fruits of chili capsicum Annum and are primarily used as a coloring and flavoring agent in food products.

This help art student to produce different shades of color using the extracted material from any natural form, it also helps the artist of this time to be more creative. Various shades of color can be obtained through extracting nature; this gives the researcher courage to produce the Beetroot and Turmeric plants for drawing in higher institutions of learning more especially at Kyambogo University.

Kazumi (2019) observes that;

Produces pigments from plant to media once the plant materials are turned into ink, the artist makes botanical drawing of each plant this is then mixed it with gum Arabic and other natural ingredients to work as media.

This help art student to produce pigments from plant and to extract media using natural material, it also helps artist to produce media in solid forms to be used for drawing on different surfaces for artwork such as Beetroot and Turmeric plants for Drawing in higher institutions of learning. Therefore, the need for production should continue in institution more especially at Kyambogo University.

Agarwal (2018) cites that;

The main idea of extracting media from plant natural material is to avoid the media produced were dyed on cotton fabric and tested for their color. Several

mordents were also used for fixing the color on the fabrics; materials the use of natural media has once again gained interest.

The main idea of extracting media from plant natural material helps artist to produce media on different surfaces; it also helps the student artists of this time to be more creative in producing extracted media to be used for drawing. Several mordents of media were used for fixing color on different surfaces has they gained interest. This gives the researcher courage to produce the Beetroot and Turmeric plants for drawing more especially at the Department of Art and Industrial.

Miller (2015) states that;

Production of artworks in relation to gender and medium used 58, utilizes the natural and manmade features depicted in landscape artworks to offer a perspective on the nature.

The point of production of artworks in relation to gender and medium helps the artist widen the scope of thinking to produce media extracted from nature, and utilizes the natural materials depicted in landscape and other natural features such as Beetroot and Turmeric plant. This enables the artist to utilize the natural material most especially at Kyambogo University.

Rowe (2011) observes that;

In separating images from the original context of their own media, we allow them. The process and nature of appropriation has considered by anthropologist, as with appropriated works, the viewer is less likely to consider the role of the material.

To separate images from the original context of the media, the artist is allowed to use them in producing images. The process and nature of appropriation considered the viewer to appreciate the role of material used in executing work on different surfaces such as Beetroot and Turmeric at Kyambogo University.

According to the Art Story (2015);

Earth art, or land artist, expanded their art idea beyond the nature an American movement that uses the natural landscape to produce art in the 1960s

influenced ideas and works that were extracted using media from nature.

The artists always should expand their art idea beyond the nature surrounding them in order to start using the natural materials to produce art works, such as Beetroot and Turmeric plants, they should be influenced by ideas and works that were extracted using natural materials from nature more especially artist at Kyambogo university.

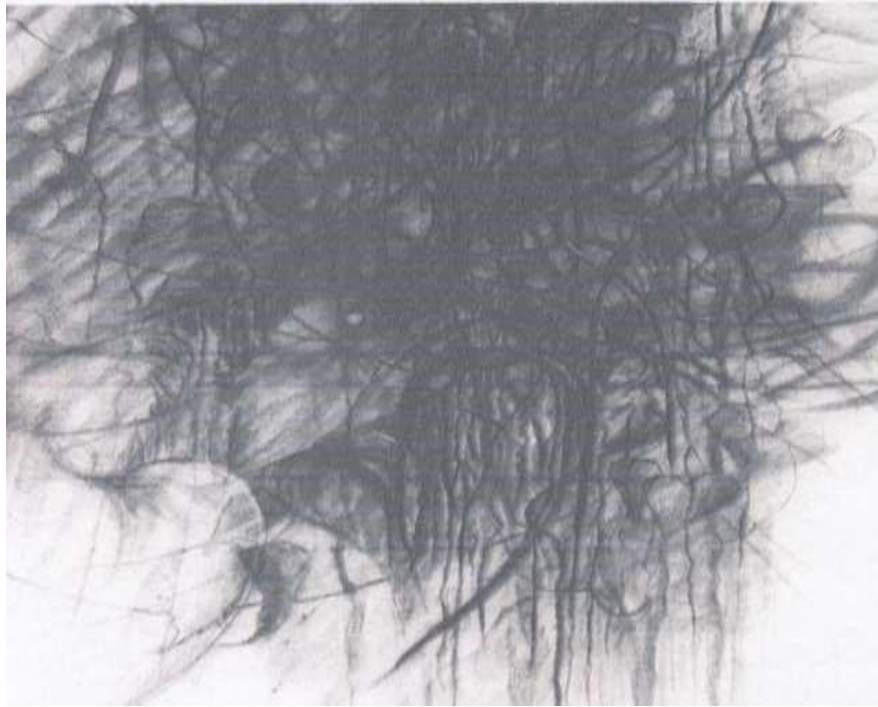


Figure 5: “Abataka Abaagalana”, Charcoal on canvas by Ssenyondwa.
Source; a studio Based Exploration of visual metaphors in the Art of Drawing.

“Abataka Abaagalana” likewise is a phrase in Luganda that refers to harmony. Harmony is a state of peaceful existence and agreement and can mean a pleasing combination of related things. Ssenyondwa here picks a metaphor from the life surrounding a maze of stems of creeping plants to talk about a communal setting; a group of people bound together by their habits and who share whatever is within their reach to live in harmony in spite of their differences in an adverse environment. With harmony, a weakness in individual performance will be covered up by strength in a group, therefore diminishing the losses of individuality. Ssenyondwa states: This study uses space, leaves tendrils and stems of creeping plants to metaphorically talk about people who are communal bound together by their habits and who share whatever is within their reach so

living in harmony in spite of their differences in an adverse environment just as is the case of “Abataka Abagalana” in the proverb above. With harmony in a communal existence, individual performance will be equal to another place therefore diminishing the impact of individualism.

CHAPTER THREE: METHODOLOGY

3.0 Overview.

This chapter explains the procedures through which the research was executed. It presents the system used in collecting, information of the study. The methodology on nature research design, the physical area of study, Target/accessible population of study, sampling technique, sample size (Population and art samples), research instruments, pre-testing, validity and reliability, data collection, data analysis, and logistical and ethical considerations. The following objectives were used to examine the trend of drawings done using extracted media from nature. Documentary review, empirical observation, interview were applied to find out why few students of art and artists used extracted media from nature for art production at Kyambogo University. Also applied were a documentary review, empirical observation, and interview specifically to produce liquid and pastel pencils drawing media from Beetroot bulb and Turmeric rhizome plant materials.

3.1 Research Design.

Study design was descriptive and exploratory in nature. Yin (1994) quoted that, a research design is an action plan for getting from here to there. He further defines it as a blueprint of the research, which deals with four problems: (1) what question to study, (2) what data is relevant, (3) what data to collect, and (4) how to analyze the results. Therefore, this research design will help in the prevention of collecting data that will not be relevant to the questions and pave way for further proper processes of analyzing and interpreting tabulated findings. A study is descriptive when it undergoes progressive change it is considered exploratory because it was concerned with examining the current trend of drawing done using extracted material from nature.

The study focused on using natural material such as Beetroot bulb, and Turmeric rhizome as media for drawing and inspiration. The researcher examined the history of artworks done using industrial made media for drawing at the department of Art and Industrial Design, Kyambogo University. He also examined the trend of drawing done using extracted media from nature more specifically using drawing media in Uganda.

3.2 Area of study.

The study was based at Kyambogo University a public institution of learning situated along Jinja road seven kilometers away from the east of Kampala city. The Department of Art and Industrial Design, Kyambogo University is a case representing other institution of higher learning in Uganda. It intended to capture people of different age groups and those in different activities- the students and lecturers respectively who are in the practice and may wish to extend knowledge in view of art.

3.3 Target Population of study

The study included both male and female for gender balance provided me with the information, respondents who were selected from the following categories of people pioneer students, teaching staff in department of art and industrial design, Kyambogo University and communities outside. This selection enabled the researcher to obtain information from the current trends of drawing media in institution as it relates with using natural media for drawing such as Beetroot and Turmeric in general. It also involved retired staff (both teaching and non-teaching staff) and pioneer students of this selected institution in order to collect information on the history of drawing media as it relates with using natural material.

The study also considered practicing artists using various media for drawing in their work. They provided information on the attitude towards drawing, their education background, the methods and techniques they used. Through drawing, the reasons why they chose to use natural material to experiment and their source of influence, both flora and fauna nature inspirations such as fish, goat, banana bunch and leaves, were also selected as inspiration for drawing during experiment the extracted media in order to produce drawing media.

3.4 Sampling Techniques

Stratified sampling was used to collect information from an open audience for example a group of people who do not have any common similarities. According to Kothari, Stratified sampling is used if a population from which a sample was to be drawn does not constitute a homogeneous group, stratified sampling technique is generally employed in order to obtain a representative sample. Under stratified sampling the population was divided into several sub populations that were individually more homogeneous than the total population and then items from each stratum were selected to constitute a sample. This sampling technique was not restricted only to student artists who used the natural material in drawing or Lecturers teaching Drawing in Kyambogo University but also to anybody that was perceived to have relevant

information that would help gauge the current trend of Drawing in institution and hence serve the descriptive nature of this research. Such population included administrators, lecturers of Drawing, and any other person who the researcher felt had either a direct or indirect influence on Drawing using material. The researcher used purposeful sampling technique.

In this the researcher was able to collect and analyze data in order to make viable conclusions regarding the trend of drawing in these institution as it relates with using natural material. The reason for choosing this technique was that in many cases the population from which the information was required was not well defined; it also presented less challenges and no limitations of choosing from a large population of respondents within the given geographical locations.

3.5 Sample Size and selection methods

The study intended to satisfy sampling methods of various respondents as shown in table 1.

Table 1: Size and selection methods of various respondents.

CATEGORIES OF RESPONDENTS	SELECTION METHODS	TOTAL NUMBER	REMARKS
University Fine art students	Purposive	10	Fair
Administration	Purposive	05	Good
Former Artists	Simple random sampling	10	Good
Un employed in community	Sample random for individuals	05	Fair
Teaching staff and art department	Purposive	10	V. Good
Total number of participants		40	

Source: photos by the researcher (2019)

3.6 Method of data collection and Research instruments

Both primary and secondary methods of data collection were used. The intention behind is that all of them were sufficient to gather completely same information needed. In this research questionnaires, interview, studio experimentation and library review.

3.6.1 Documents and records

The researcher used this method to collect already recorded data regarding drawing in institutions of higher learning in Uganda. This method was unassuming i.e., it was a method of data collection that did not require the researcher to intrude in the research context and could be used without imposing on participants; it could be checked and re-checked for reliability. In this the researcher looked at both published and unpublished information which were in form of articles related to drawing media in institutions of higher learning. It was used alongside other methods of data collection to gather information on the following regarding objective (1) of this study:

- To examine the trend of Drawings done using extracted media from nature
- The history of drawing media in institutions of higher learning in Uganda regards the use drawing media.
- The types of materials used to teach drawing.

Objective (2) of this study.

- To find out why few art students use extracted media from nature for Drawing at Kyambogo University.
- The methods and materials used by artists in using drawing media.
- The lessons to why artists use natural material for drawing.

Finally, documentation was used to collect information on using natural material and their sources of inspiration. This information was greatly used during studio experimentations.

3.6.2 Questionnaires

In this instrument, the researcher used the questionnaire on the artist respondents because of the following;

- The respondents were many and there was limited time available for the researcher to interview the vast majority of individuals. Therefore, a few were selected for the interviews while the vast majority was given questionnaires.
- It was direct to prevent respondents from giving too much irrelevant information, which would waste a lot of time.
- It allowed the researcher to engage in other research activities while they were being filled.
- It helped the researcher gather samples of data making the results more dependable.
- It saved the researcher a lot of money from having to frequently approach the same interviewees over a wide geographical location.

3.6.3 Interviews

The researcher using a guide administered interview to the students of fine art, teaching staff in the Department, pioneer artists. Structured interviews were used in collecting data regarding the natural material. The interview guide was used in this study because of the following reasons the process gave an immediate feedback and generation of more reliable data through probing questions.

- i) It consumed less time when seeking for information.
- ii) It enabled the researcher to get direct information.
- iii) It was cheap and easy to access the right information from the respondents

3.6.4 Library review

The researcher used this method to collect already recorded information regarding drawing media in higher institution of learning. It was also sourced from published sources, which include books, and various artists as the researcher intend to libraries of institution of higher learning to collect information.

The researcher visited art institution to collect information on using media from nature and programs for Drawing, and timetable and external examiners report as well as other relevant published and unpublished information on drawing using natural media. The researcher also sourced information, publications in relation to drawing. This tool of data collections was used because of the following reasons;

- i) It was able to revile out the already existing publications that was done by other
- ii) It enabled the researcher to build more literature regarding the study
- iii) It was easy to access and seek a lot of time in analyzing information.

3.7 Procedures

The researcher set up both structure and unstructured questions. Secondly, the researcher subjected them to pre- test, the researcher then conducted the pilot study with in the planned question to a few respondents. Finally, the researcher sorted out the questions that seemed to be ambiguous.

After the researcher identified the category of respondents to be used, he then proceeded to get an introductory letter from the head of Department of Vocation Studies to introduce him to various groups of respondents. Thereafter, the researcher proceeded to the field specifically to interview artist at the Department of Art and Industrial Design Kyambogo University.

3.8 Studio experimentation

This method was used to produce media, and the final drawings that depicted the source of inspiration the researcher followed a creative procedure, which sum up the development stages of the drawing medium.

In this area the researcher, practically extract media from Beetroot tuber and Turmeric rhizome as material for drawing production of objective three. The researcher at various stage of drawing as planned went on to use banana plant, goat and fish inspirations to express natural form.

Studio experimentation involved creating sketches of artwork to enable the researcher have a proper understanding of the natural material to be used extensively in the final drawings. Drawing media was used in two way; processing extracted media from natural material and placing the concepts from memory directly on different surfaces without the aid of a secondary source.

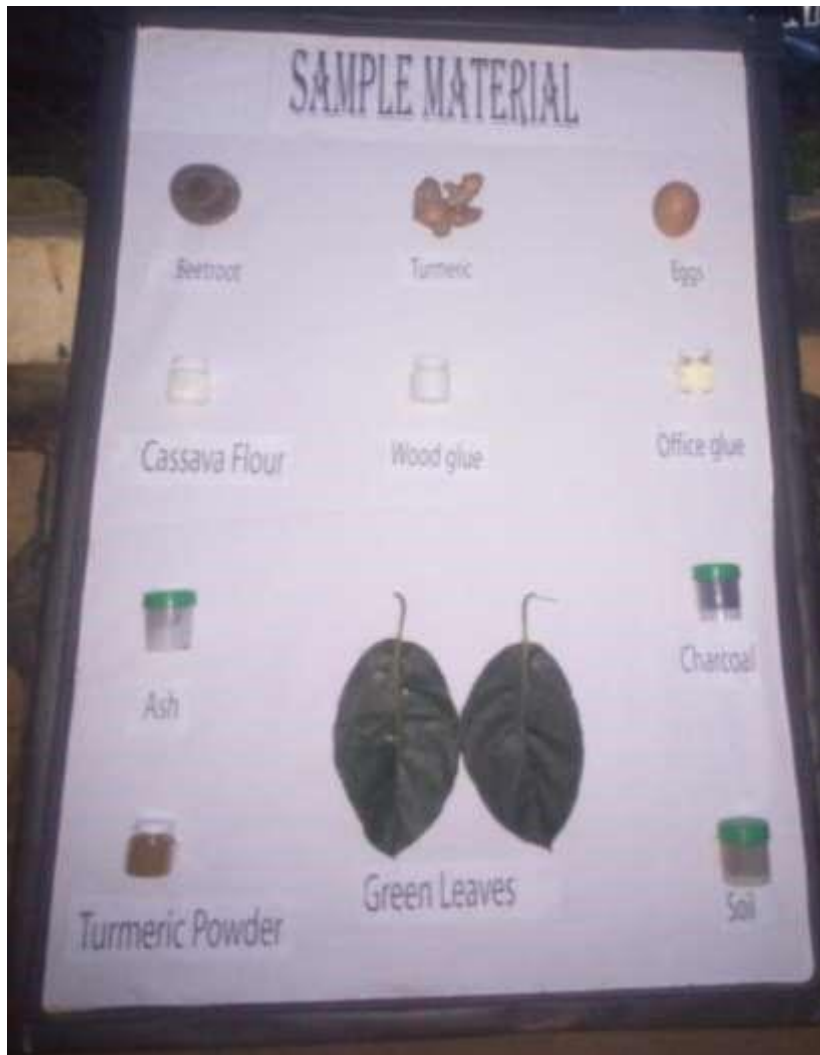


Figure 6: Sample materials
Source: photo by the researcher (2019)

The figure 6 above represents the following sample materials such as Beetroot Bulb Turmeric rhizome, eggs, cassava flour, wood glue, office glue, ash, charcoal, soil, Turmeric and green leaves which was to be used to produce media for drawing more especially in higher institution of learning.



Figure7: Photo of preparation.
 Source: photo by the researcher (2019)

The figure 7 above represents photos of preparation of different materials such as Beetroot and Turmeric plant materials in the studio. This shows the preparation process of the Turmeric rhizome and Beetroot bulb mixed with different additives. The extract used in this media was prepared earlier in studio and preserved in the tin. This results into different type of color; it was achieved by mixing the solution with water. As shown in the studio experimentation in the figure above.



Figure 8: Cutting both Turmeric rhizome and Beetroot tuber

Source: photo by the researcher (2019)

The figure 8 above represents photos of preparation of different materials such as Beetroot and Turmeric plant materials in the studio. This shows the preparation process of the Turmeric rhizome and Beetroot bulb. The result was from the Turmeric rhizome and Beetroot bulb as shown in figure above of the studio experimentation.



Figure 9: Grinding Turmeric to form a liquid to be used for drawing.
Source: photo by the researcher (2019)

The figure 9 above represents photos of preparation of different materials such as Beetroot and Turmeric plant materials in the studio. This shows the preparation process of the Turmeric rhizome and Beetroot bulb. The researcher produced extracted media aiming at fulfilling the objective three using natural material. Both Turmeric rhizomes turned into different color after squeezing them and gridding into a pastel as shown in figure 9 of the studio experimentation.



Figure 10: Mixing Beetroot solution for preparation of media

Source: photo by the researcher (2019)

The figure10 above represents photos of preparation of different materials such as Beetroot plant materials in the studio. This shows the preparation process of the Beetroot bulb. The researcher produced extracted media targeting at fulfilling the objective three using natural materials. Turmeric and Beetroot turned into different color after mixing them and gridding into a pastel as shown in figure above of the studio experimentation.



Figure 11: Mixing Turmeric solution for preparation of media

Source: photo by the researcher (2019)

The figure 11 above represents photos of preparation of different materials such as Beetroot and Turmeric plant materials in the studio. This shows the preparation process of the Turmeric rhizome and Beetroot bulb. The researcher produced extracted media aiming at fulfilling the objective three using natural materials. The Beetroot turned into different color after mixing them and gridding into a pastel as shown in figure above of the studio experimentation.



***Figure 12: Images of banana pod flower drawn using extracts to create tints and shades.
Source: photo by the researcher (2019)***

The figure 12 above shows varieties of drawn tints and shades produced using both Beetroot and Turmeric liquid on bond paper. The researcher produced extracted media aiming at fulfilling the objective three using natural materials. Both Turmeric rhizome and Beetroot bulb together with other additives turned into different color after squeezing them and gridding into a pastel as shown in figure 9 of the studio experimentation.



Figure 13: Experimenting drawing. Using both Turmeric and Beetroot liquid.

Source: photo by the researcher (2019)

The figure 13 above sketches shows varieties of drawn tints and shades produced using both Beetroot and Turmeric liquid on bond paper. Represents the following experiments of different media and materials such as Beetroot, Turmeric liquid on bond paper it also shows the studio findings of trials to achieve different tints and shade obtained through experimentations. The researcher produced extracted media aiming at fulfilling the objective three using natural materials. Both Turmeric and Beetroot turned into purple orange color after mixing them as shown in figure above of the studio experimentation.



Figure 14: Experimenting withboth Turmeric and Beetroot liquid for drawing.
Source: photo by the researcher (2019)

The figure 14 above sketches shows varieties of drawn tints and shades produced using both Beetroot and Turmeric liquid on bond paper it also shows the studio findings achieved different tints and shade obtained through experimentations with Beetroot bulb and Turmeric rhizome. The researcher produced extracted media aiming at fulfilling the objective three using natural materials. Both Turmeric and Beetroot turned into purple orange color after mixing them as shown in figure above of the studio experimentation.



Figure 15: Experimenting using both Beetroot and Turmeric liquid

Source: photos by the researcher (2019)

The figure 15 above sketches show varieties of drawn tints and shades produced using both Beetroot and Turmeric liquid on bond paper. It also shows the studio findings achieved different tints and shade obtained through experimentations with Beetroot bulb and Turmeric rhizome. The researcher produced extracted media aiming at fulfilling the objective three using natural materials. Both Turmeric and Beetroot turned into brown and purple color after mixing them and gridding into a pastel as shown in figure 9 of the studio experimentation.

3.9 Validity and Reliability

To ensure validity, reliability and credibility of the instruments used, a pilot study was carried out. This helped the researcher to find out potential problems that could be avoided during the survey. Although this meant extra effort at the beginning of the research project, the pilot

study enabled the researcher to revise the methods and logistics of data collection before starting the actual experiment of both Beetroot tuber and Turmeric rhizome. As a result, a good deal of time, effort and money was saved in the end. In this, the researcher focused on:

- i) The reaction of the respondents to the research procedures.
- ii) The reliability of the data collation tools.
- iii) The time needed the survey to be carried out.

3.9 Logistical and Ethical considerations

The researcher acquired an introductory letter from the head of the Art and Design department of Kyambogo University, which introduced him to relevant authorities. The researcher needed to explain to the respondents the purpose of study in order to get their formal consent before involving them in the interview process or any photography.

Documentation of data did not include the respondents' names in order to keep responses confidential; however, the use of names was acceptable if the respondents were willing.

CHAPTER FOUR: PRESENTATION AND INTERPRETATION OF STUDIO

FINDINGS

4.0 Overview:

This chapter, the researcher presents and interprets the studio findings of the study. The samples of the media extracted from Beetroot bulb and Turmeric rhizome to draw selected natural inspiration of fish, banana bunch and a goat were used to check possibilities of the media. The drawings were based on the results generated during the studio experiments and production processes rather than established facts. This presentation includes only the final drawings.

4.1 Studio findings:

The natural media were identified, examined, extracted through various parameters and later used for the production of media. They were all studied and viewed in their natural state during the studio experimentation. The findings were noted when the different media samples were subjected to the various testing parameters.

Studio experimentation was the method used to produce media, and the final drawings that depicted the source of inspiration the researcher followed a creative procedure, which sum up the development stages of the drawing medium.

4.1.1. Production of drawing media extracted from Beetroot bulb and Turmeric rhizome

Production of extracted media from Beetroot and Turmeric samples were arranged according to color. While in the studio, the researcher noted that the media used in institutions had various colures depending on the places where they were found and other factors.

In this area the researcher, practically extract media from Beetroot tuber and Turmeric rhizome as material for drawing production of objective three. The researcher practically used banana plant and a goat and fish as a source of inspiration to express natural form. This was practiced especially through various stage of drawing as planned;



Figure 16: Bottles containing processed samples

Source: photo by the researcher (2019)

The figure 16 above shows the bottles containing processed samples of both Beetroot and Turmeric liquid with different additives such as soil, ash, glue and charcoal green leaves, mixed with water and stacked on the white bond paper on board. The researcher produced extracted media aiming at using natural materials for Drawing. Turmeric rhizome mainly turned into yellow color while the Beetroot turned into purple color, but after mixing them with different additives, the media resulted into different colors for use as shown in the figure above.

4.1.2 Experimentation with Extracted media

The drawings samples of each set of panels took a period of between two and three weeks to complete; these drawing articulated the following natural form. To extract media from Beetroot and Turmeric plants material for production of drawing media.

Each drawing was drawn on a single set of panels showing different objective using extracted natural medium especially Beetroot and Turmeric plus some additives such as glue, egg Yolk, egg white, cassava flour, soil, ash among others.

Studio experimentation involved creating sketches of artwork this was to help the researchers have a proper understanding of using natural material to be used extensively in the final drawings. Drawing media was used in two ways, processing extracted media from natural material and placing the concepts from memory directly on different surfaces without the aid of a secondary source.



Figure17: Trials of experimenting Beetroot and Turmeric media.

Source: photo by the researcher (2019)

The figure 17 above represents the following trials experiments of different media and materials such as Beetroot, Turmeric, soil, ash, glue, water, eggs, on different surfaces. Such as Manila paper, sack, and bark cloth. The studio findings of these trials were to achieve different colors obtained through experimentations with Beetroot bulb and Turmeric rhizome liquid mixed with selected soil, ash glue, water and eggs materials used for drawing on different surfaces such as Manila paper, polythene paper and bark cloth. The researcher came up with different caches tried on different surfaces using extracted media as shown in figure above through the studio experimentation.



Figure 18: Experimenting with Beetroot solution on paper.
Source: photo by the researcher (2019)

The figure 18 shows an objective drawing of the banana bunch and leaves produced using purple liquid from Beetroot mixed with water. This purple extract used in this drawing was

prepared earlier in studio and preserved in a tin and it can be preserved for use over a month before it expired. The drawing shows possible tones, tints achieved by mixing the solution with water. The researcher produced extracted media aiming at fulfilling the objective three using natural materials, the Beetroot turned into purple color after squeezing it and gridding into a pastel as shown in figure above through the studio experimentation.



Figure 19: Experimenting with Beetroot using paste on bond paper.

Source: photo by the researcher (2019)

The figure 19 shows the drawing of the Turmeric rhizome produced using purple liquid from Beetroot mixed with cassava flour, boiled water, and placed in the tin for use extracted on bond paper. The purple extract used in this drawing was prepared earlier in studio and preserved in the tin. The drawing shows possible tones, tints achieved by mixing the solution with water. The researcher produced extracted media aiming at fulfilling the objective three using natural

materials. Turmeric rhizome turned into purple color after squeezing and gridding into a pastel as shown in figure above even in the studio experimentation.



Figure20: Experimenting with Turmeric paste using Cassava flour as additives.
Source: photo by the researcher (2019)

The figure 20 shows an objective drawing of the banana bunch and leaves produced using Turmeric paste with cassava flour as additives on bond paper, which resulted in brown color. The brown extract used in this drawing was prepared earlier in studio and preserved in the tin. The drawing shows possible tones, tints achieved by mixing the solution with water. This turn into bright colors as shown in the figure above. The researcher produced extracted media targeting at fulfilling the objective three of using natural materials for drawing. This came after squeezing it and gridding into a pastel as shown in figure 9 of the studio experimentation.



Figure 21: Experimenting with Turmeric paste and Office glue as additives on paper.

Source: photo by the researcher (2019)

The figure 21 shows an objective drawing of banana flower and leaves produced using brawn paste with office glue on bond paper. The extract used in this drawing was prepared earlier in studio and preserved in the bottle. The drawing shows possible tones, tints achieved by mixing the solution with water. This turn into bright colors as shown in the figure above because of the effect, which the paste and office glue, brought.



Figure 22: Experimenting with Turmeric and Beetroot paste using an egg yolk as additives.

Source: photo by the researcher (2019)

The figure 22 shows the drawing of the Turmeric rhizome produced with both Beetroot and Turmeric paste and an egg yolk as additives on Manila paper. The extract used in this drawing was prepared earlier in studio and preserved in the tin. The drawing shows possible tones, tints achieved by mixing the solution with water. This turned into bright colors as shown in the figure above because of the effect which the paste and egg yolk brought. The researcher produced extracted media aiming at fulfilling the objective three using natural materials. Both Turmeric and Beetroot turned into brawn color after squeezing them and gridding into a pastel as shown in figure 9 of the studio experimentation.



Figure 23: Experimenting with Turmeric solution and soil as additives.

Source: photo by the researcher (2019)

The figure 23 shows an objective drawing of the banana flower and leaves produced with Turmeric liquid as media on bond paper. The extract used in this drawing was prepared earlier In studio and preserved in the bottle. The drawing shows possible tones, tints achieved by mixing the solution with water. This turn into bright colors as shown in the figure above because of the effect which the liquid brought, it also shows cool natural colures. The researcher produced extracted media focusing at fulfilling the objective three using natural materials, the Turmeric liquid turned into brawn color after mixing it with soil as shown in figure 11 of the studio experimentation.



Figure 24: Experimenting with Turmeric and Beetroot liquid and wood glue as additive.
Source: photo by the researcher (2019)

The figure 24 shows the drawing of the Turmeric rhizome produced using both Turmeric and Beetroot liquid with wood glue as additives on bond paper. The extract used in this drawing was prepared earlier in studio and preserved in the bottle. The drawing shows possible tones, tints achieved by mixing the solution with water. This turn into bright colors as shown in the figure above because of the effect which the liquid and wood glue brought, it also shows cool natural color in it. The researcher produced extracted media targeting at fulfilling the objective three using natural materials. Both Turmeric and Beetroot with wood glue, turned into color orange after squeezing them mixing them with water as shown in figure above through the studio experimentation.



Figure 25: Experimenting with Turmeric liquid and office glue as additives.
Source: photo by the researcher (2019)

The figure 25 shows an objective drawing of the banana flower and leaves produced using Turmeric liquid with office glue as media for drawing on bond paper. The extract used in this drawing was prepared earlier in studio and preserved in the bottle. The drawing shows possible tones, tints achieved by mixing the solution with water. This turns into bright colors as shown in the figure above because of the effect which the liquid and office glue brought, it also shows cool natural color in it. The researcher produced extracted media to fulfilling the objective three using natural materials, the Turmeric liquid turned into orange color as shown in figure above through the studio experimentation.



Figure 26: Experimenting with Beetroot and Turmeric wax crayons as media for drawing on paper.

Source: photo by the researcher (2019)

The figure 26 shows the drawing of the Turmeric rhizome produced with both Beetroot and Turmeric wax crayons on bond paper. The drawing shows possible tones, tints achieved by mixing cooked cassava flour with water. This turn into bright colors as shown in the plate above because of the effect which Beetroot and Turmeric wax crayons brought, it also shows cool natural color in it. The researcher produced extracted media aiming at fulfilling the objective three using natural materials, both Turmeric turned and Beetroot turned into coffee brown color after mixing them with boiled cassava flour in the studio experimentation.



Figure 27: Experimenting with Beetroot and Turmeric liquid and egg yolk as additives on paper.

Source: photo by the researcher (2019)

The figure 27 shows an objective drawing of the banana bunch and leaves produced with both Beetroot and Turmeric liquid and an egg yolk as additives on bond paper. The extract used in this drawing was prepared earlier in studio and preserved in the tin. The drawing shows possible tones, tints achieved by mixing the solution with water. This turns into bright colors as shown in the figure above because of the effect which the liquid and egg yolk brought, it also shows cool natural color in it. The researcher produced extracted media aiming at fulfilling the objective three using natural materials. The Turmeric liquid turned into yellow color while the Beetroot turned into brownish color after squeezing them and gridding into a pastel as shown in figure 9 of the studio experimentation.



Figure 28: Experimenting with extracted Turmeric paste on Manila paper.
Source: photo by the researcher (2019)

The figure 28 shows an objective drawing of the goat, banana plant and leaves produced using extracted Turmeric paste on Manila paper. The extract used in this drawing was prepared earlier in studio. The drawing shows possible tones, tints achieved by mixing the solution with water. This turns into bright colors as shown in the figure above because of the effect which the Turmeric paste brought, it also shows cool natural color in it. The researcher produced extracted media targeting at fulfilling the objective three using natural materials, the Turmeric turned into orange color and light brown as shown in figure above of the studio experimentation.



Figure 29: Experimenting with combination of Turmeric paste and Beet root, liquid on Manila paper.

Source: photo by the researcher (2019)

The figure 29 shows an objective drawing of the goat and banana leaves produced with combination of both Turmeric paste and Beet root, liquid on Manila paper. The extract used in this drawing was prepared earlier in studio and preserved. The drawing shows possible tones, tints achieved by mixing the solution with water. This turn into bright colors as shown in the figure above because of the effect which both Beetroot and Turmeric liquid brought, it also shows cool natural color in it. The researcher produced extracted media aiming at fulfilling the objective three using natural materials. The Turmeric paste together with Beetroot turned into yellow and maroon color purple color after mixing them with cassava flour in the studio experimentation.



Figure 30: Experimenting with Turmeric liquid and office glue on Manila paper.
Source: photo by the researcher (2019)

The figure 30 shows an objective drawing of the goat, banana leaves and banana crustal produced using Turmeric liquid and additives of office glue on Manila paper. The extract used in this drawing was prepared earlier in studio. The drawing shows possible tones, tints achieved by mixing the solution with water. This turns into bright colors as shown in the figure above because of the effect of Turmeric liquid and office glue brought, it also shows cool natural color in it. The researcher produced extracted media focusing at fulfilling the objective three using natural materials, the Turmeric liquid turned into orange color as shown in figure above of the studio experimentation.



Figure 31: Experimenting with Beetroot liquid, and Turmeric and egg Yolk on bond paper.

Source: photo by the researcher (2019)

The figure 31 shows an objective drawing of the banana leaves, goat and banana crustal produced using both liquid of Beetroot, and Turmeric with additives of egg Yolk on bond paper. The drawing shows possible tones, tints achieved by mixing the solution with water. This turns into bright colors as shown in the figure above because of the effect which Beetroot and Turmeric liquid plus egg yolk as additives brought, it also shows cool natural color in it. The researcher produced extracted media aiming at fulfilling the objective three using natural materials. Both Turmeric and Beetroot turned into light yellow and light brown color after squeezing them and gridding into a pastel as shown in figure 9 of the studio experimentation.



Figure 32: Experimenting with both Turmeric and Beetroot liquid on bond paper.
Source: photo by the researcher (2019)

The figure32 shows the drawing of the she goat produced using both Turmeric and Beetroot liquid, on bond paper. The drawing shows possible tones, tints achieved by mixing the solution with water. This turns into bright colors as shown in the figure above because of the effect of both Turmeric and Beetroot brought, it also shows cool natural color in it. The researcher produced extracted media with the aim of fulfilling the objective three using natural materials. Both Turmeric and Beetroot liquid turned into orange color after squeezing them and gridding into a pastel as shown in figure 9 of the studio experimentation.



Figure 33: Experimenting with Turmeric and Beetroot liquid on bond paper.
Source: photo by the researcher (2019)

The figure 33 shows the drawing of the Banana plantation produced using both Turmeric and Beetroot liquid on bond paper. The drawing shows possible tones, tints achieved by mixing the solution with water. This turn into bright colors as shown in the figure above because of the effect which both Turmeric and Beetroot brought, it also shows cool natural color in it. The researcher produced extracted media focusing at fulfilling the objective three using natural materials. Both Turmeric and Beetroot liquid turned into coffee brown color after squeezing them and gridding into a pastel as shown in figure 9 of the studio experimentation.



Figure 34: Experimenting with both Turmeric and Beetroot liquid on manila.
Source: photo by the researcher (2019)

The figure 24 shows an objective drawing of the goat produced with both Beetroot, and Turmeric liquid on bond paper. The drawing shows possible tones, tints achieved by mixing the solution with water. This turn into bright colors as shown in the figure above because of the effect of both Beetroot and Turmeric liquid brought, it also shows cool natural color in it. The researcher produced extracted media targeting at fulfilling the objective three using natural materials. Both Turmeric and Beetroot turned into orange color after squeezing them and gridding into a pastel as shown in figure 9 of the studio experimentation.



Figure 35: *Experimenting with old Beetroot on a bond paper.*
Source: photos by the researcher (2019)

The figure 35 shows an objective drawing of the banana leaves and banana flower produced using old Beetroot on a bond paper. The extract used in this drawing was prepared earlier in studio. The drawing shows possible tones, tints achieved by mixing the solution with water. This turn into bright colors as shown in the figure above because of the effect which the old Beetroot liquid brought, it also shows cool natural color in it. The researcher produced extracted media aiming at fulfilling the objective three using natural material. The old Beetroot turned into coffee brown color after keeping it for about three weeks with use and later tried it in studio experimentation.



Figure 36: Experimenting with both Beetroot and Turmeric as additives of office glue on bond paper.

Source: photo by the researcher (2019)

Figure36 shows an objective drawing of the banana leaves, flower and banana crustal produced using both Beetroot and Turmeric liquid and an additives of office glue on bond paper. The extract used in this drawing was prepared earlier in studio. The drawing shows possible tones, tints achieved by mixing the solution with water. This turn into bright colors as shown in the figure above because of the effect of both Beetroot and Turmeric together with office glue brought, it also shows cool natural color in it The researcher produced extracted media focusing at fulfilling the objective three using natural materials. Both Turmeric and Beetroot turned into yellow and purple color after squeezing them and gridding into a pastel as shown in figure 9 of the studio experimentation.



Figure 37: Experimenting with both fresh and old Beetroot liquid on bond papers.
Source: photo by the researcher (2019)

The Figure 37 shows an objective drawing of the goat, banana leaves and banana flower produced using both fresh and old Beetroot liquid on bond papers. The extract used in this drawing was prepared earlier in studio. The drawing shows possible tones, tints achieved by mixing the solution with water. This turns into bright colors as shown in the figure above because of the effect which the fresh old Beetroot liquid brought, it also shows cool natural color in it. The researcher produced extracted media aiming at fulfilling the objective three using natural materials. Both old and fresh Beetroot turned into brown and purple color after mixing them in the studio experimentation.



Figure 38: Experimenting with both Turmeric and Beetroot liquid plus wood glue on plywood.

Source: photo by the researcher (2019)

Figure 38 shows an objective drawing of the fish and banana leaves produced using both Turmeric and Beetroot liquid plus wood glue on ply wood. The extract used in this drawing was prepared earlier in studio. The drawing shows possible tones, tints achieved by mixing the solution with water. This gave both dark and bright colors as shown in the figure above because of the effect which the Turmeric and Beetroot liquid with wood glue brought, it also shows cool natural color in it. The researcher produced extracted media aiming at fulfilling the objective three using natural materials. Both Turmeric and Beetroot turned into purple color yellow after applying them on board during the studio experimentation.



Figure 39: Experimenting with both Turmeric and Beetroot liquid plus green leaves on white sack.

Source: photo by the researcher (2019)

Figure39 shows an objective drawing of the banana leaves and banana flower produced using both Turmeric and Beetroot liquid plus green leaves on white sack. The extract used in this drawing was prepared earlier in studio. The drawing shows possible tones, tints achieved by mixing the solution with water. This gave both dark and bright colors as shown in the figure above because of the effect which the Turmeric and Beetroot liquid plus green leaves brought, it also shows cool natural color in it. The researcher produced extracted media targeting at fulfilling the objective three using natural materials. Both Turmeric and Beetroot turned into yellow, green and purple color after trying them on a sack during the studio experimentation.



Figure 40: Experimenting with old Beetroot solution on Canvas.
Source: photo by the researcher (2019)

Figure 40 shows an objective drawing of the banana leaves and banana bunch produced using old Beetroot liquid on Canvas. The extract used in this drawing was prepared earlier in studio. The drawing shows possible tones, tints achieved by mixing the solution with water. The researcher produced extracted media focusing at fulfilling the objective three using natural materials. The old Beetroot turned into brown color after keeping it for about three weeks in the studio experimentation.



Figure 41: Experimenting with powder Turmeric and Beetroot and egg yolk on Manila paper.

Source: photo by the researcher (2019)

Figure 41 shows an objective drawing of the goat and banana leaves produced using powder Turmeric and Beetroot with additives of egg yolk on Manila paper. The extract used in this drawing was prepared earlier in studio. The drawing shows possible tones, tints achieved by mixing the solution with water. The researcher produced extracted media aiming at fulfilling the objective three using natural material. Both Turmeric and Beetroot powder turned into orange and coffee brown color after mixing them with egg yolk as shown in figure above of the studio experimentation.



Figure42: Experimenting with both old Beetroot and Turmeric liquid on canvas
Source: photo by the researcher (2019)

Figure 42 shows an objective drawing of the goat and banana leaves produced using both Beetroot and Turmeric liquid on canvas. The extract used in this drawing was prepared earlier in studio. The drawing shows possible tones, tints achieved by mixing the solution with water. The researcher produced extracted media focusing at fulfilling the objective three using natural materials. Both Turmeric and old Beetroot turned into brown color after mixing them as shown in figure above of the studio experimentation



Figure 43: Experimenting with both Beetroot and Turmeric liquid as media for drawing.

Source: photo by the researcher (2019)

Figure 43 shows an objective drawing of the goat; banana leaves and banana plant produced using both Turmeric and Beetroot liquid as media on Manila paper. The extract used in this drawing was prepared earlier in studio. The drawing shows possible tones, tints achieved by mixing the solution with water. The researcher produced extracted media aiming at fulfilling the objective three using natural materials. Both Turmeric and Beetroot turned into orange color as shown in figure above of the studio experimentation.



Figure 44: Experimenting with Beetroot solution on bond paper.

Source: photo by the researcher (2019)

Figure 44 shows an objective drawing of the goat, banana leaves and banana plant produced using Beetroot liquid on bond paper. The extract used in this drawing was prepared earlier in studio. The drawing shows possible tones and dark tints achieved by mixing the solution with water. The researcher produced extracted media targeting at fulfilling the objective three using natural materials. The Beetroot turned into purple color after squeezing them and gridding into a pastel as shown in figure 9 of the studio experimentation.



Figure 45: Experimenting with both Turmeric and Beetroot liquid on bond paper.
Source: photo by the researcher (2019)

The Figure 45 shows an objective drawing of the banana leaves and banana flower produced with both Turmeric and Beetroot liquid on bond paper. The extract used in this drawing was prepared earlier in studio. The drawing shows possible tones, tints achieved by mixing the solution with water. The researcher produced extracted media aiming at fulfilling the objective three using natural materials. Both Turmeric and Beetroot turned into orange and purple color after squeezing them and gridding into a pastel as shown in figure 9 of the studio experimentation.



Figure 46: Experimenting with both Turmeric and Beetroot liquid and wood glue on a bond paper.

Source: photo by the researcher (2019)

The figure 46 shows an objective drawing of the goat, banana leaves and banana crustal produced with Turmeric liquid and additives of wood glue on bond paper. The extract used in this drawing was prepared earlier in studio. The drawing shows possible tones, tints achieved by mixing the solution with water. The researcher produced extracted media focusing at fulfilling the objective three using natural materials. Both Turmeric and Beetroot turned into brown color after squeezing them and gridding into a pastel as shown in figure 9 of the studio experimentation.



Figure 47: Experimenting with both Turmeric and Beetroot liquid and office glue on a bond paper.

Source: photo by the researcher (2019)

The figure 47 shows an objective drawing of the goat and banana leaves produced using both Beetroot and Turmeric liquid with additives of office glue on bond paper. The extract used in this drawing was prepared earlier in studio. The drawing shows possible tones, tints achieved by mixing the solution with water. The researcher produced extracted media aiming at fulfilling the objective three using natural materials. Both Turmeric and Beetroot turned into purple orange color after squeezing them and gridding into a pastel as shown in figure above of the studio experimentation.



Figure 48: Experimenting with both Turmeric and Beetroot liquid on a canvas
Source: photo by the researcher (2019)

Figure 48 shows an objective drawing of the goat, banana leaves and plantation produced with both Beetroot and Turmeric liquid with additives of office glue on a canvas. The extract used in this drawing was prepared earlier in studio. The drawing shows possible tones, tints achieved by mixing the solution with water. The researcher produced extracted media aiming at fulfilling the objective three using natural materials. Both Turmeric and Beetroot turned into purple and brown color after mixing them as shown in figure above of the studio experimentation.



Figure 49: Experimenting with both Turmeric and Beetroot and wood glue on a bond paper.

Source: photo by the researcher (2019)

The figure 49 shows an objective drawing of the goat and banana leaves produced using both Beetroot and Turmeric liquid and additives of wood glue on bond paper. The extract used in this drawing was prepared earlier in studio. The drawing shows possible tones, tints achieved by mixing the solution with water. The researcher produced extracted media aiming at fulfilling the objective three using natural materials. Both Turmeric and Beetroot turned into orange and purple color after mixing them and gridding into a pastel as shown in figure 9 of the studio experimentation.



Figure 50: Experimenting with both Turmeric and Beetroot on a bond paper.

Source: photo by the researcher (2019)

The figure 50 shows an objective drawing of the banana leaves, banana bunch and plantation produced with both Turmeric liquid and Beetroot on bond paper. The extract used in this drawing was prepared earlier in studio. The drawing shows possible tones, tints achieved by mixing the solution with water. The researcher produced extracted media targeting at fulfilling the objective three using natural materials. Both Turmeric and Beetroot turned into orange color after squeezing them and gridding into a pastel as shown in figure 9 of the studio experimentation.



Figure 51: Experimenting with both Turmeric and Beetroot liquid and office glue on a bond paper.

Source: photo by the researcher (2019)

Figure 51 shows an objective drawing of the banana leaves and banana bunch produced using both Turmeric and Beetroot liquid with additives of office glue on bond paper. The extract used in this drawing was prepared earlier in studio before use. The drawing shows possible tones, tints achieved by mixing the solution with water. The researcher produced extracted media aiming at fulfilling the objective three using natural materials, the Turmeric rhizome turned into yellow color while the Beetroot turned into purple color after squeezing them and gridding into a pastel as shown in figure 9 of the studio experimentation.

CHAPTER FIVE: DISCUSSION, CONCLUSION, AND RECOMMENDATIONS

5.0 Overview

This chapter of the study discusses and presents a summary discussion of major findings, conclusion and recommendations in relation to the research questions raised in chapter one, based on the results generated during studio experiments and production processes which were also guided by the specific objectives of the study.

5.1 Discussion

5.1.1 Current trend of drawing using extracted media from nature

The objectives of using extracted media from natural material as media for drawing from nature at Kyambogo University, drawing media can be summarized as being for academic purposes, because no provision or structuring of the curriculum allows them to be used beyond the studio to articulate various selected media. This is also confirmed by many of the drawings exhibited using natural material at Kyambogo University much as creativity is one of the objectives in some of these drawing, it is limited. The drawings in these studies articulate selected media. The selected media expressed through the drawings show a different conceptual approach to creative communication that by passers the restrictions of representational drawing, hence making it possible for the researcher to explore concepts that can be best expressed by leaning beyond the boundaries created by strict observance.

5.1.2 Artists using extracted media from nature for art production

The findings of the study express a more process based approach to drawing media. The selected extracted media was a result of continuous drawing projects rather than one single lesson, achievement. They are very complex, having a lot of detail which cannot be done in a single lecture period. The media for drawing is also based on ideas and need to be assessed bearing this conceptual frame work in mind. This is different from drawing media which has been at Kyambogo University where assessment has been based so much on drawing done using industrial made media for drawing.

5.1.3 Production of drawing media extracted from Beetroot and Turmeric plants.

The types of media produced using extracted media form nature in this study were not so much different from those regularly used at Kyambogo University. A range of these materials were selected according to what best suited the art ordinary levels and Beetroot bulb and Turmeric rhizome was the media of choice because it matched the large drawing media.

The purpose of this research was to produce drawing media extracted from Beetroot and Turmeric plant under which the trend of drawing done using extracted media from nature, the usage of extracted media from nature to produce art products by few students and artists were examined. And finally the production of liquid and paste media from the Beetroot and Turmeric plant materials for drawing was done.

The researcher produced extracted media using natural materials from the Beetroot bulb and Turmeric rhizomes. The art industries in Uganda have been producing media in other raw materials such as oil, ash and blood to produce the art works. The researcher had some knowledge about the media on the market with good impression which did not portray artistic image or identity. Natural materials were seen by the researcher from the market and internet. The researcher produced media from Beetroot and Turmeric plant aiming at fulfilling the objective of using natural materials.

World over, nature has been the source of inspiration for many artists, unfortunately in art industries do not engage artists to develop natural media hence the continued production of factory media. This has promoted the importance of factory media that do not portray artistic image or identity. This is a challenge to both artists and producers to develop local media that highlight the upcoming artists.

The media extracted from the natural features Beetroot bulb and Turmeric rhizome for drawing was sampled. The sample materials were in different colors, which include red and yellow plus other additives such as eggs, cassava flour, glue, candle wax, soil, charcoal, green leaves, among others. The acquired medium was categorized into classes; these had individual material differences in terms of color, structures, and shape. They also reacted differently towards the experiments and preparation. The natural colors of these sample material later changed to others colors after being processed. They were tested using different surfaces materials like papers, sacks, cloth and bark cloth most of these were effective. The trials, which were made out of these sample material, were banana flower pods later images were produced such as Banana plant, goat, and fish among others.



Source: photo by the researcher (2019)

The researcher produced media extracted from Beetroot aiming at fulfilling the objective using natural materials. Above are some of the sketches of banana bunch and leaves plus Turmeric rhizomes. The extract used in this drawing was prepared earlier in studio. The drawing shows possible tones, tints achieved by mixing the solution with water.



Source: photo by the researcher (2019)

The researcher produced media extracted from Beetroot and Turmeric aiming at fulfilling the objective using natural materials. Above are some of the sketches of banana bunch and leaves plus Turmeric rhizome. The extract used in this drawing was prepared earlier in studio. The drawing shows possible tones, tints achieved by mixing the solution with water plus crayon.



Source: photo by the researcher (2019)

The researcher produced media extracted from both Beetroot and Turmeric liquid aiming at fulfilling the objective using natural materials. Above are some of the sketches of banana plant and leaves plus a she goat. The extract used in this drawing was prepared earlier in studio.

5.2 Conclusion:

This study produced media extracted from Beetroot bulb and Turmeric rhizome with the studio possibilities of using the extracts for production of drawings. In this regard the three objectives of the study were set, namely:

- i) To examine the trend of Drawing done using extracted media from natural materials.
- ii) To find out why few art students use extracted media from nature for Drawing at Kyambogo University.
- iii) To extract Drawing media f Kyambogo University rom Beetroot and Turmeric plant materials.

The conclusions and recommendations of the study were based on the above three objectives.

The drawing media at the department of art and industrial design Kyambogo University are quite many though not all of them can be used for art production because the quality is not aesthetical. The researcher noted that the media used in drawing practices move in line with the material from which they are extracted. However, this does not guarantee that they are the same used all over the world, the natural media used by artists in other countries also differs from that produced in Uganda and therefore one may find a different media worldwide.

It should also be noted that the material experimented in this study, were tested using different surfaces. All the media extracted from Beetroot bulb and Turmeric rhizome used had individual unique material differences. Besides the differences in color, they also differed in the textures. Their reactions to the various testing parameters were also different. Amongst all the media for drawing got in the factory, natural material are the most preferred media both in the market and at the institution though their others that are specifically used in art generally. During the experimentation, the selected natural material from Beetroot bulb and Turmeric rhizome reacted positively, therefore natural material is recommended by this study to be used in institution all over Uganda.

5.3 Recommendations

Following the findings of this study, it is of prime importance that creative emotional drawings of the natural features keep pace with the ever-changing nature of some ways creative emotional drawing media from natural material and can be fully exploited:

Natural materials in Uganda should be exploited and the members of the community should aim at preserving all types of nature because they give broad and very good inspirations. This will limit the imported manufactured media products and boost the locally produced natural medium hence development especially in the art industry. In addition, the young generation of art student should be encouraged to research more on raw materials. This will help the economy to grow and to open up market for locally produced Ugandan material products outside Uganda.

Ugandan should support their government in its education policies that encourage use of local materials to young people at primary, secondary schools and institution levels. This will help the country to have more scientific research on local raw materials and more technology within Uganda art industries. The government should fund and support further research on using natural material and producing media for the market as one way of archiving sustainable development

goals. The government should also fund more research on strategize on sensitizing people to keep the environment.

Art institutions, colleges, schools, and individuals should continue using natural material for production because it can easily be acquired locally and cheaply from different areas across Uganda. This will limit the imported media and boost the locally produced medium hence development. We should encourage the young generation to research more on using natural materials. This will help the economy to grow and to open up market for locally produced media products in and outside Uganda.

The researcher tried to show changes in experimenting natural materials in institution of higher learning using natural forms, but he left a lot un-researched that need follow up by other researchers' especially upcoming artists. Whereas the Beetroot and Turmeric plant materials have been experimented by the researcher especially at Kyambogo University, there is room for young researchers to improve on the experimenting on the extracted natural materials.

Artist should be given access to produce media so that they can exploit them whenever needed in order to improve their creative ability. They should read books that have information about natural features such as plant in our environment.

The study findings would definitely benefit the current practicing Artists and Art lecturers because it is easy to produce the natural medium which has been studied and besides, this finding would equip the practicing artists with knowledge and skills which would enable them to be self-reliant rather than depending on the foreign art materials.

I strongly recommend that the new findings in this study be shared with other institutions of Higher learning in Uganda.

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