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BIO-BAG: GENERATING ECO PAPER-BAG FROM

BANANA PEEL (MUSA PARADISIACA L.)

AS AN ALTERNATIVE IN PLASTIC BAGS

A research paper as requirement in Work Immersion

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ABSTRACT

Eco paper is a product that is intended to aid in the reduction of solid waste in our society. Both the increased need for virgin paper and the excessive production of fruit waste, particularly banana peel trash, can be harmful to the environment. The production of virgin paper generates far too much solid waste in the process. The Philippines, on the other hand, boasts extensive banana plantations. Its fruit waste becomes solid trash as well. To combat the growing problem of solid waste, the researcher developed a product that uses banana peels instead of virgin paper to make paper.

The goal of this study was to demonstrate and assess whether banana peel could be used to make an eco-friendly paper bag. Furthermore, researchers investigated and studied how banana peel may be transformed into an eco-friendly paper bag, which will be put to the test to see how effective and beneficial the Banana Peel Eco Bag is. This research will look at the aspects that required to be addressed while determining the effectiveness of Eco paper, such as the problems produced by banana peels and solid waste, the features that Eco paper would provide, and the environmental benefits. The researchers used Quasi-Experimental research design. The respondents for this study were chosen using a non-probability sampling methodology. In the current circumstances, the researchers have decided to use the convenience sampling approach as a non-probability sampling method. This simply means that the participants are those who are the most available to the researcher. Participants were chosen by the researchers to gain access to the product's reliability and capabilities in several aspects. Eight bio-bags constructed from banana peels were prepared by the researcher and provided to the

respondents to assess in this study. The researchers will use Information Extraction Questionnaire (IEQ) with a “1-4” rating scale as the primary tool to gather adequate data from respondents, with Google Forms acting as the primary medium for data extraction. It will serve as a standard guide for researchers which must address the same questions in a uniform manner. The researchers conclude that the respondents confirmed that the Bio Bag produced from banana peel is durable, has a variety of uses, and is more reliable than a standard plastic bag using the interpretation table.

ADVISER'S RECOMMENDATION SHEET

The research attached hereto titled: **“BIO-BAG: GENERATING ECO-PAPERBAG FROM BANANA PEEL (MUSA PARADISIACA L.) AS AN ALTERNATIVE IN PLASTIC BAGS”** prepared and submitted by **AIRA FEYI CAPICIO, GABRIELLE JOYCE S. CASTULO, KATE ANNE P. GONZALES, CZARINA JOBELLE D. MEDINA, CHRISTIAN PAUIG, KRISVIN STA MARIA, AND A-JHAY VALDEZ** in partial fulfilment of the requirements for **WORK IMMERSION** is hereby endorsed.

NANCY MANAYAN

Adviser

Date: _____

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In today's competitive environment, those who have the desire to step forward have a better chance of succeeding. A project connects the theoretical and practical aspects of work. With this the researcher decided to take part in this project. First and foremost, the researcher wishes to thank the supreme power, Almighty God, for clearly leading us down the right path in life. This project would not be possible without his support.

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To their classmates, who are also present to cheer them on and to explain any research-related questions or misunderstandings

DEDICATION

The study is carried out with the full participation of all the group members, with complete dedication, and, of course, with love and passion. The researchers would like to focus our investigation on the people listed below.

To begin with, the researchers thank God for each new day that allows us to complete our mission. He provided us with the strength to deal with the simultaneous deadline as well as the patience to endure group struggles.

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The third is our group, which, despite being late at times, manages to finish the study with the help of the group's active members.

Fourth, the researchers devote our research to our professors, who assisted and guided us in the research process.

Lastly, to the next researcher who chooses this type of study, the researchers aim that our research will help you excel in your research.

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CHAPTER 1

PROBLEM AND ITS BACKGROUND

Introduction

Eco paper is a product designed to help reduce solid waste in our society. With the excessive use of plastic bags and too much fruit waste produced especially from banana peel waste, both can be detrimental to the environment. Producing virgin paper discharge too much solid waste in the process. On the other hand, the Philippines has vast hectares of banana plantations. The waste of its fruit also turns into solid waste. To avoid the continuing increase of solid waste, the researcher created a product that can help in minimizing solid waste by making eco-paper that can be used in making paper bags out of banana peel as an alternative to plastic bags.

One of the most well-known and useful plants on the planet is the banana. This plant's nearly all parts can be used. Bananas are one of the most essential crops on the planet since they are high in nutrition, potassium, vitamin B6, vitamin C, antioxidants, and phytonutrients. Bananas are members of the Musa family of plants, which are native to Southeast Asia and are cultivated in many of the world's warmer climates. As previously mentioned, bananas are high in fiber, which is a natural man-made substance that is often used in the production of other products. As of now, the planet generates more than 380 million tons of plastic each year, which could end up as contaminants in our natural environment and oceans, prompting humans to seek alternative solutions to the plastic waste crisis. Using environmentally friendly products in alternatives to plastic bags, such as the eco paper bag, will help minimize the use of plastic bags.

The researchers have devised a method for producing an eco-bag out of banana peel. The researchers will use banana peel as the primary material to produce an eco-bag that could be used to reduce our community's use of plastic bags.

Background of the Study

Plastic waste and deforestation are two of the major reasons why our climate is deteriorating. Plastic pollution results from the accumulation of plastic and plastic-based items in the atmosphere, posing a threat to ecosystems and the human food chain. Plastic contamination is caused by a variety of plastic products, each of which has a different chemical configuration. The amount of plastic waste in our atmosphere is influenced by the human population, wind and ocean currents, coastline geography, urban areas, and trade routes, writes Choudhary. The plastic pollution enters the food chain thereby causing hazardous long term carcinogenic effect to fishes, animals, and human beings (Walker, 2018). The plastics have a chemical configuration that makes them resistant to environmental degradation. The pollution is classified as micro, meso, or macro debris depending on the size. (Subha, 2018). On the other hand, deforestation directly leads to biodiversity loss both in plant and animal species.

Given the world's current plastic waste problem, and to avoid further environmental effects from plastic pollution, humans are beginning to consider alternative solutions to the plastic waste problem. One of the proposed solutions is to use eco-friendly materials in place of plastic bags, such as eco paper bags, to help reduce the use of plastic bags.

The goal of this research is to provide an alternative method of producing eco paper bags while also reducing solid waste. The researchers chose and conducted a handmade banana peel

eco paper bag study as an alternative resource to reduce the growing amount of solid waste in the environment. Commitment to protecting, saving, and preserving the environment is required.

In the tropical and subtropical regions of the world, banana is a large fruit crop replacement for around 8.8 million hectares. It is also a nutrient-dense fruit that grows in many parts of the world and is used as food and dietary supplement. Because of the high fiber content, bananas are good prebiotics. Not only that, but the fruit's other half can be used as a substitute for plastic bags.

The term "eco bag" refers to a type of reusable shopping bag. It is a better option than single-use paper or plastic bags. It can also be a canvas tote bag, natural fibers such as jute, synthetic woven fibers, or a dense plastic that is more durable than plastic disposable bags and can be used for a variety of purposes (Debbie Meyer, 2018). Reusable shopping sacks are safer than plastic bags, according to (Saraexim, 2016).

Eco bags not only recycle material that would be going to waste, but it also eliminates the need for single-use plastic bags that have proven to harm the environment. Made from petroleum, plastic bags fuel extraction of fossil resources. Plastic bags take years to break down in nature, burning them releases harmful chemicals, and plastic waste in the oceans poses a threat to several marine species. According to phys.org (2019) every day almost 48 million shopping bags are used throughout the Philippines, adding up to more than 17 billion a year. Although there are 3rd projects and numerous activities to eliminate plastic, they are insufficient to combat these wastes. Therefore, the researchers have come up with the concept of Eco paper bags made up of Banana Peel, which is a great alternative to plastic bags.

Objective of the Study

The aim of the study is to see how easy it is to make an eco-bag out of banana peels.

The researcher is likely to be interested in the advantages and side effects of people who use Banana Peel Eco Paper Bags to replace plastic bags.

Using eco-friendly materials in plastic bag alternatives such as eco paper bags to help reduce the use of plastic bags. Banana peel, for example, can aid in the replacement of plastic bags. The studies objective is to help in reducing solid waste and cutting of trees, as the world is facing different environmental problems, it is important to use an alternative to save trees and to minimize solid waste pollution. It benefits both the environment and the people. Making a paper out of a banana peel trims down the demand for cutting of trees. This in turn has many environmental benefits such as reducing air pollution, hindering global warming, saving resources, and preserving ecological balance. It can also help in saving water because it doesn't require a lot of processes, also, it can improve air and water quality up to 74%. By recycling fruit peels, the amount of greenhouse gas pollution caused by rotting food is decreased.

The researchers tend to further understand the effectiveness of generating bio-bag made from banana peel to be use in daily necessities, in which the researchers will use the following questions:

- a) Is there a significant difference between a commercial plastic bag with the bio-bag made from banana peel (*Musa Paradisiaca* L.)?
- b) Does the effectiveness of bio- bag made from banana peel (*Musa Paradisiaca* L.) in terms of durability reliable?

c) Can bio-bag have made from banana peel (*Musa Paradisiaca* L.) valuable for its usages?

Scope and Limitation

This study is all about development of an Eco-friendly bag made from banana peel (*Musa Paradisiaca* L.). The researcher will conduct an experiment on how the bio - bag durable and resistant. The aim of this study is to evaluate generating a bio bag made of banana peels that can lessen usage of plastic materials. In this study there would be respondents who will be asked to participate to observe the durability of the product to be analyze by the researchers. This research study is being conducted by seven STEM senior high school students of Echague National High School.

Significance of the Study

The researchers aim to contribute to the solution of the plastic waste crisis in this study. This research seeks to aid people who use plastic bags in eliminating them with Eco bags. This research is intended everyone who claims that Eco bags are a good option to plastic bags. The researchers, seeks to increase the product's effectiveness of the system.

The researchers, seeks to increase the product's effectiveness of the system. Furthermore, the researchers intend to compromise with the following beneficiaries:

STUDENTS. The result of the study will provide knowledgeable information on alternate products for plastic waste such as bio bags

RESEARCHERS. The outcome of this study will gain understanding of the researchers with the capabilities of bio-bag as a solution for the irreversible climate change in degrading the plastic waste

FUTURE RESEARCHERS. The result of the study will help the future researchers to gain information with their related studies.

PUBLIC USERS. In this study the outcome may possibly further inform the plastic users to use bio-bag as alternative usage for plastic waste

Overall, this study may be significant to the Students, Researcher, Future Researchers and Public users.

Definition of Terms

- **Banana Peels (*Musa paradisiaca* L.)** - A banana peel, called banana skin in British English, is the outer covering of the banana fruit. Banana peels are used as food for animals, an ingredient in cooking, in water purification, for manufacturing of several biochemical products.
- **Bio bag** - Biodegradable bags are bags that are capable of being decomposed by bacteria or other living organisms. Each year approximately 500 billion to 1 trillion plastic bags are used worldwide.
- **Plastic Bag**- A thin, flexible plastic film, nonwoven fabric, or plastic textile container is a form of container. Foods, produce, powders, ice, periodicals, chemicals, and rubbish are all contained and transported in plastic bags.

- **Paper Bag-** it is a bag with the paper is used to be the main material, it is also known as a kraft bag. As they are biodegradable and recyclable, they don't have the same environmental impact as plastic bags.

CHAPTER 2

LITERATURE REVIEWS

This chapter will provide a summary of relevant literature and studies that researchers have conducted to shed light on the subject under investigation, as well as local and international studies that could contribute to the development of this research. This study's literature is drawn from existing research and research papers, both foreign and domestic, that were considered useful for the study's progress.

Local Studies

The Philippines is the third largest contributor. Every year, an estimated 0.75 million metric tons of improperly handled plastic enters the ocean. As a result, there has been a rise in awareness of plastic waste management in the Philippines, bringing the issue of plastic pollution to the forefront of consumer consciousness (World Group, 2021). In that case further research studies are developed to fight against the plastic waste like generating bio bags made from waste materials.

In 2009, Dela Cruz stated that banana production and exports in other countries are continuing to expand in popularity. According to Lee, 2011 banana peels are also fibrous, which means they can be used to manufacture paper. It is suitable for paper crafts and art projects. As a result, it was environmentally beneficial in terms of its applications. It has the potential to reduce the number of occurrences of tree cutting. It has the same strength as papers created from natural wood fibers. Although it was not as white as writing paper, it could be used for other purposes. Banana leaves are also utilized for cooking, in addition to being employed as packing materials in marketplaces and other areas of trade. The banana flower, which is an important element in

various unique Filipino recipes, is the same way. When dried banana flowers find a market for export (Bureau of Agricultural Research, 2012). Furthermore, the banana is sometimes referred to as the "tree of life" due to its multiple benefits. In addition to being eaten fresh, the ripe fruit can be processed into jam, desserts, and purees. On the other side, unripe bananas can be used to make starch and chips. Banana extracts can be used to make wine, catsup, and vinegar. 2014 (Ploetz)

Aside from that, according to Acaso et al. (2021), banana is one of the most often produced fruit plants in the Philippines. It has the potential to offer both food and industrial raw resources. The banana peel can also be used to make paper and paperboards (Lejano, 2009). These plants not only yield nutritious fruit, but they can also manufacture eco-friendly bags from the bio waste generated by farming one of the Philippines' most popular fruits.

Foreign Studies

According to Thomas, B. (2018), the synthesis of fine chemicals and functional materials from natural resources is of tremendous public benefit due to the growing environmental and ecological concerns associated with the usage of petroleum-based chemicals and products. As a result, the creation of a bio bag made from banana peels has revolutionized the way plastics are used.

Musa Papyrus is a plant formed from vegetable waste. It will also be economically viable due to its simple manufacturing technique. If created in an engineered manner, it can be used to make papers, notepads, and even notebooks (Balasubramanian, P. and Balakrishnan, P., 2014). The advantages of this plant have prompted several research to be conducted in order to address global plastic waste pollution.

According to the research study of Tibolla, H. (2014) banana peel is a potential source of cellulosic fiber, a material that is important for producing paper that can be converted into a bio bag, which has been advocated in the pursuit of sustainable development. It can be utilized to alleviate the problem of poisoning the environment by suffocating and contaminating plastic garbage (Acciona, 2015).

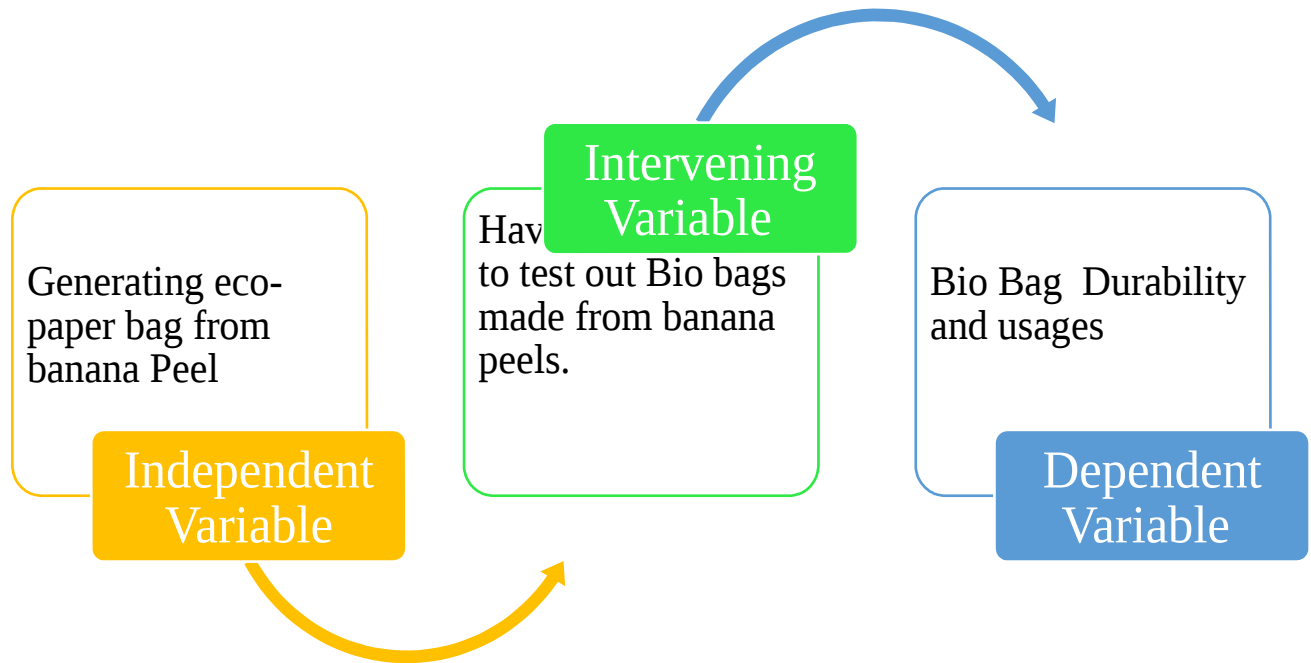
Synthesis of the Study

Banana peels were used in the research to create bio bag material. A bio bag made from banana peels could be a viable alternative to regular plastic bags. Making a bio bag out of banana peels rather of regular petroleum-based plastic is seen to be an effective option for increasing the plastic industry's efficiency. The results demonstrate that the plastic created can withstand half the weight of petroleum plastic.

This research presents a scientific way for producing bio bag from banana peels, which can assist to minimize pollution. Banana peel bio bag that can be used for packaging or as a carry bag. The amount of bio bag produced by this process might be significant, and biodegradable tractability is one of the most difficult aspects of making biobag material.

Conceptual Framework

In this study the independent variable of the study refers to generating an eco-paper bag made from banana peels. While for the intervening variable, we will be having participants to assess the sample from the product together with a commercial paper bag will then be examine to its use. From strength test to elongation. The data which will be gathered will determine whether there is a significant difference in bio bag from Banana Peels and a commercial paper bag.



CHAPTER 3

METHODOLOGY

This chapter will go over the methodological approach used by the researchers to provide further detail and establish a definite conclusion. This chapter also discusses the general methods and procedures of the study.

Research Design

The researchers used Quasi-Experimental research design. The purpose of Quasi-Experimental research design is to establish a cause-and-effect relationship between an independent and dependent variable. The main difference with a true experiment is that the groups are not randomly assigned (Thomas, 2020).

This Quasi-Experimental research design was used by the researchers to find a causal relationship (relationship clause) in determining the effectiveness of the bio-bag made from banana peel.

Research Respondents

The researchers use non-probability sampling technique to determine the respondents of this study. As for the current situation, the researchers decided to undergo with the convenience sampling method under the non-probability sampling. This simply means the people who are the most accessible to the researcher are included. The researchers choose participants to assess the product reliability and capabilities in different aspects. In this study, there are eight bio-bag made from banana peel that was produced by the researcher and given to be analyze by the respondents.

General Methods

This study selected a post-test only approach because it occurs after the actual experiment, enabling them to rule out testing effects and concentrate on how the Banana Peel can be turned into Paper Eco Bags, where the outcome on a measure changes because it has already been identified.

It is used by observing the product's outcome and collecting data on the Banana Peel as an Eco-Paper Bag's outcome measure during treatment or intervention. The participants, who are the control group, are the participants in this experimental investigation.

The researchers will have used questionnaires as the primary tool to gather adequate data from respondents, with Google Forms acting as the primary medium for data extraction. It will serve as a standard guide for researchers which must address the same questions in a uniform manner.

Procedures

Ingredients:

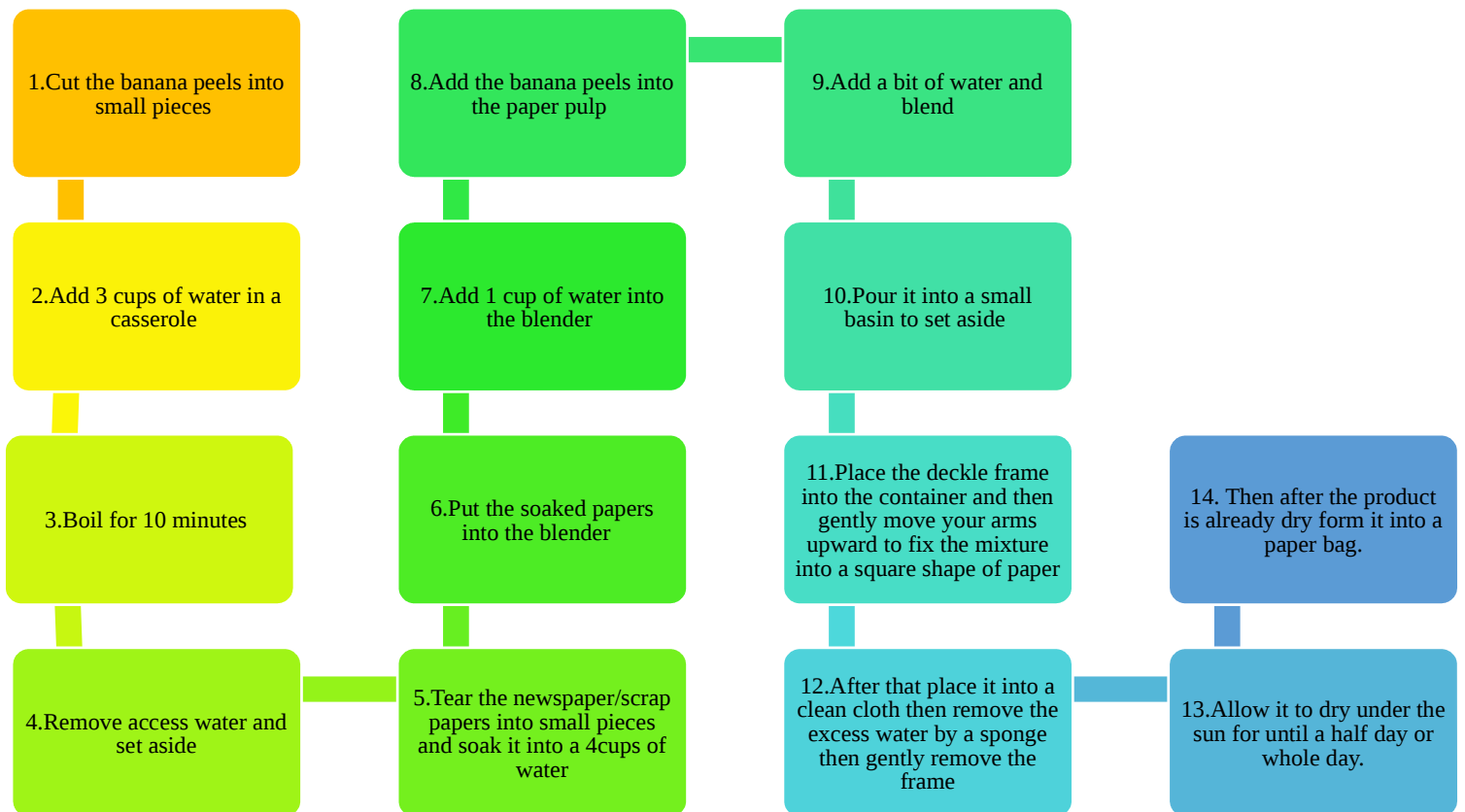
8-9 pcs Banana Peel	24 cups of Water	2 small Basins 1 large basin
Strainer Pot	Deckle frame	Ladle

10-12 pages of Newspaper /Scrap papers	Blender	Casserole
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General Procedure:

- 1.Cut the banana peels into small pieces
- 2.Add 3 cups of water in a casserole
- 3.Boil for 10 minutes
- 4.Remove excess water and set aside
- 5.Tear the newspaper/scrap papers into small pieces and soak it into a 4 cups of water
- 6.Put the soaked papers into the blender
- 7.Add 1 cup of water into the blender
- 8.Add the banana peels into the paper pulp
- 9.Add a bit of water and blend
- 10.Pour it into a small basin to set aside
11. Pour the mixture in a large basin
- 10.Add 1 US gallon water
- 11.Place the deckle frame into the container and then gently move your arms upward to fix the mixture into a square shape of paper
- 12.After that place it into a clean cloth then remove the excess water by a sponge then gently remove the frame
- 13.Allow it to dry under the sun for until a half day or whole day.
14. Then after the product is already dry form it into a paper bag.

Process Flow:



Data Analysis

This part of the research will be analyzed the data gathered from the questionnaire with the use of google forms given to the participants, as well as guidelines of the 4-point Likert Scale.

Range	Rating Scale	Descriptive Rating
1	1.0-1.49	Strongly Disagree
2	1.5-2.49	Disagree
3	2.5-3.49	Agree
4	3.5-4.00	Strongly Agree

CHAPTER 4

RESULT AND DISCUSSION

This chapter presents the result and findings of this study which was analyzed through mean, frequency distribution, and percentage.

Result and Discussion

Table 4.1: Bio Bag made from banana peel durability

QUESTIONS	Mean	Interpretation
Is it a one-time usage material	2.25	Disagree

Is it easily destroyed by water droplets	2	Disagree
Does it can manage to a long-time usage	2.75	Agree
Can this product carry a semi-heavy material	3	Agree
It can use one week before it breaks	3.75	Strongly Agree
Total	2.75	Agree

Based on table 4.1, It shows that the product has the mean of 2.75 with descriptive rating of “Agree” for its durability. Wherein the first item, “Is it a one-time usage material” result with a mean of 2.25 and a descriptive rating of “Disagree”. While the second item, “Is it easily destroyed by water droplets” had a mean of 2 and a descriptive rating of “Disagree”. Furthermore, the accumulated mean for product management for long time usage results with an average of 2.75 and descriptive rating “Agree”. Aside from that, the question “Can this product could carry a semi-heavy material” has a mean of 3 with descriptive rating of “Agree”. The last item, “It can use one week before it breaks” result a mean of 3.75 and a descriptive rating of “Strongly Agree”.

Table 4.2: The Bio-Bag made from Banana Peel Usages

QUESTIONS	Mean	Interpretation
It can carry thin books	3.5	Strongly Agree
It can carry thick books	3.25	Agree
It can fit snacks such as chips	3.75	Strongly Agree
It can be used as packaging	3.5	Strongly Agree
It can be hand carry bag	3.5	Strongly Agree
It can carry fit more than two items	3.75	Strongly Agree

Total	3.54	Strongly Agree
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Table 4.2 shows, the usages of the bio-bag made from banana peel. First item, “It can carry thin books” with a mean of 3.5 and a descriptive rating of “Strongly Agree”. Second item, “It can carry thick books” with a mean of 3.25 and a descriptive rating of “Agree”. Third item, “It can fit snacks such as chips” with a mean of 3.75 and a descriptive rating of “Strongly Agree”. Fourth item, “It can be used as packaging” with a mean of 3.5 and a descriptive rating of “Strongly Agree”. Fifth item, “It can be hand carry bag” with a mean of 3.5 and a descriptive rating of “Strongly Agree”. Lastly, “It can carry fit more than two items” with a mean of 3.75 and a descriptive rating of “Strongly Agree”.

To conclude this up, the bio-bag reliability in terms of usages results a grand total mean of 3.54 and a descriptive rating of “Strongly Agree”.

Table 4.3: Bio-bag made from banana peel comparison with commercial Plastic Bag

QUESTIONS	Mean	Interpretation
It is much appealing than a commercial plastic bag	2.5	Agree
The handle is more reliable than common Paper Bag.	2.5	Agree
It is usable to purchase daily necessities	3	Agree
It can be reused several times.	3.25	Agree
The product is much thicker than a commercial paper bag	3.25	Agree
Total	2.9	Agree

Table 4.3 presents the comparison of a commercial plastic bag to the bio-bag made from banana peel with their appearance which result with a mean of 2.5 and a descriptive rating of “Agree”. Followed by “The handle is more reliable than common Plastic Bag” with a mean of 2.5 and a descriptive rating of “Agree”, “It is usable to purchase daily necessities” with a mean of 3 and a descriptive rating of “Agree”, moreover, “It can be reused several times.” with a mean of 3.25 and a descriptive rating of “Agree” and “The product is much thicker than a commercial plastic bag” with a mean of 3.25 and a descriptive rating of “Agree”.

Overall, the 5 items regarding to bio-bag made from banana peel comparison to a commercial plastic bag in terms of their structure and purposes got a grand mean of 2.9 with a descriptive rating of “Agree”. This means that bio-bag made from banana peel to be reliable as a commercial plastic bag.

CHAPTER 5

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

Summary

In the second semester of the S.Y 2020-2021, the researchers conducted a study to determine the efficacy of an Eco-bag constructed from banana peels. The researchers discovered that an Eco-bag produced from banana peel is far superior to plastic bags based on the data supplied and assessed above.

The term "eco bag" refers to a type of reusable shopping bag. It is a better option than single-use paper or plastic bags. It can also be a canvas tote bag, natural fibers such as jute, synthetic woven fibers, or a dense plastic that is more durable than plastic disposable bags and can be used for a variety of purposes (Debbie Meyer, 2018). Reusable shopping sacks are safer than plastic bags, according to (Saraexim, 2016).

It was also discovered that the banana peel eco-bag is sturdy and capable of carrying semi-heavy objects, and that the ingredients used in its creation are not easily destroyed by water. Moreover, it can be used for a variety of purposes, including as a handbag that can carry more than two items and as packaging.

The eco-bag is also more dependable than a normal plastic bag, according to the data collected. Furthermore, the researchers guarantee that the Eco-bag manufactured from banana peel can be extensively utilized by the field because it already has a lot of study and the materials used in creating the product are always available and easy to locate, based on the data presented and assessed.

Conclusion

The following conclusions were formed based on the findings:

1. The respondents agree that the quality of the eco paper bag produced from banana peels fiber is durable. As a result, the researchers have concluded that the eco paper bag can be used multiple times because the experiment took more than one week to complete. Moreover, banana peel fiber also possesses a high modulus of elasticity, tensile strength, and flexibility, making it a suitable fiber material.
2. The responses acknowledge that the eco paper bag created from banana peels fiber does have the property of being community friendly. According to the data being gathered it will serve the people for a long time because it can be used to buy daily necessities like food, apparel, and other products.
3. The data demonstrate there is a substantial association between an eco-paper bag made from banana peels fiber and the plastic bag by their structures and capabilities. As a result of the study's findings, the researchers conclude that banana stem fiber can be used to make an environmentally friendly paper bag that is extremely beneficial.

Recommendation

The Banana Peels Fiber can be converted into an Eco Paper Bag, according to the research. As a result, the following recommendations are made:

1. Students should utilize this Eco Paper Bag, which is composed of recycled paper. That kind of product will assist them in transporting items such as utilizing papers from school. Furthermore, learners will appreciate this. Eco-Paper Bag because it will make them feel more at ease when they are out and about. clinging on to things

2. This investigation may provide future researchers with several opportunities to learn more about how to produce Eco Paper Bags from Banana Peels Fiber. For the testers to be relieved, they must also understand the effectiveness of Banana Peels Fiber. In addition, this study will further instruct others with alternative solutions against plastic pollution crisis.
3. Consumers can deal with the environmental crisis by using Eco Paper Bag made from banana peels for community because of its fantastic and high quality. They may be the ones who will be using the Eco Paper Bag product the most, thus they must be genuine in their evaluation.

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APPENDICES

RESEARCHERS PROFILE

Name: Czarina Jobelle D. Medina
Address: Malibago, Echague, Isabela
Age: 17
Birth Date: October 16, 2003
Birth Place: Echague, Isabela
Religion: Iglesia ni Cristo
Name of Parents: Jovito S. Medina
Robelyn D. Medina
Name of Siblings: Roi D. Medina
Ian D. Medina



SPECIAL SKILLS:

- Advanced Computer Literate (MS Word, Excel, PowerPoint)
- Active Listening
- Time Management
- Decision Making
- Leadership
- Responsible
- Multi-Tasking

Educational Background

Name of School	Basic Education	Year Graduated/Completed
Echague East Central School	Elementary Level	2015
Echague National High School	Junior High School	2019
Echague National High School	Senior High School	Currently Enrolled

RESEARCHERS PROFILE

Name: Gabrielle Joyce S. Castulo

Address: Paddad, Alicia, Isabela

Age:17

Birth Date: December 26, 2003

Birth Place: Echague,Isabela

Religion: Lds

Name Of Parents: Roberto M. Castulo

Ronabelle S. Castulo

Name Of Siblings: Maria Katrina S. Castulo

Special Skills

- Advanced Computer Literate (Ms Word, Excel, Powerpoint)
- Active Listener
- Time Management
- Decision Making
- High Sense of Responsibility and Positive Work Objective
- Flexibility In Doing the Task Given

Educational Background

Name Of School	Basic Education	Year Graduated/Completed
Alicia East Central School	Elementary Level	2015
Alicia National High School	Junior High School	2019
Echague National High School	Senior High School	Currently Enrolled



RESEARCHERS PROFILE

Name: Kate Anne Joy P. Gonzales

Address: Sto. Domingo, Echague Isabela

Age: 18

Birth Date: December 29, 2002

Birthplace: Echague, Isabela

Religion: Roman Catholic

Name Of Parents: Danilo T. Gonzales

Marites P. Gonzales

Name Of Siblings: Mark Angelo P. Gonzales

Princess Danica P. Gonzales



Special Skills:

- Decision Making
- Multi-Tasking

Educational Background

Name Of School	Basic Education	Year Graduated /Completed
Tuguegarao Sto. Domingo Elementary School	Elementary Level	2015

Ugad High School	Junior High School	2019
Echague National High School	Senior High School	Currently Enrolled

RESEARCHERS PROFILE

Name: Aira Feyi C. Capicio

Address: Sinabbaran, Echague, Isabela

Age: 19

Birth Date: December 05, 2001

Birthplace: Echague, Isabela

Religion: Roman Catholic

Name Of Parents: William C. Capicio

Victoria C. Capicio

Name Of Siblings: Sowila C. Capicio

Bryan Erwin C. Capicio

Jonathan Matthew C. Capicio

Special Skills:

- Perseverance and motivation
- Problem Solving
- Negotiation and Persuasion
- Resilience

Educational Background

Name Of School	Basic Education	Year Graduated /Completed
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Sinabbaran Elementary School	Elementary Level	2014
School Saint Joseph the Worker	Junior High School	2018
Echague National High School	Senior High School	Currently Enrolled

RESEARCHERS PROFILE

Name: Ajhay F. Valdez

Address: Castillo, Echague Isabela

Age: 17

Birth Date: July 21, 2003

Birthplace: Dalenat, Angadanan Isabela

Religion: Inc

Name Of Parents: Alfredo B. Valdez

Daisy F. Vadez



Special Skills:

- Multi-Tasking

Educational Background

Name Of School	Basic Education	Year Graduated /Completed
Castillo Elementary School	Elementary Level	2015
St. Dominic Human Development	Junior High School	2019
Echague National High School	Senior High School	Currently Enrolled

RESEARCHERS PROFILE

Name: Christian Rudy R. Pauig

Address: San Fabian, Echague Isabela

Age: 18

Birth Date: June 2, 2003

Birthplace: Soyung Echague, Isabela

Religion: Roman Catholic

Name Of Parents: Eugenio Pauig

Josephin R. Pauig

Name Of Siblings: Jerico R. Pauig

Aziah Kate R. Pauig



Special Skills:

- Advance Computer Literate

Educational Background

Name Of School	Basic Education	Year Graduated /Completed
Echague West Central School	Elementary Level	2015
School Of St. Joseph The Worker	Junior High School	2019
Echague National High School	Senior High School	Currently Enrolled

RESEARCHERS PROFILE

Name: Krisvin D. Sta Maria

Address: Tuguegarao, Echague Isabela

Age: 17

Birth Date: June 21, 2003

Birthplace: Tuguegarao Echague, Isabela

Religion: Roman Catholic

Name Of Parents: Kristopher D. Sta Maria

Mary Ann D. Sta Maria



Name Of Siblings: Jhon Kristopher D. Sta Maria

Special Skills:

- Advance Computer Literate

Educational Background

Name Of School	Basic Education	Year Graduated /Completed
Echague West Central School	Elementary Level	2015
School Of St. Joseph The Worker	Junior High School	2019
Echague National High School	Senior High School	Currently Enrolled