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Recycling Household Waste to Increase Family Financial Income and Achieve Sustainable Development Goals

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Abstract

The traditional concept of dealing with waste and industrial remains has changed within the concept of environmental protection, as the large quantities of waste currently generated are considered a matter of concern to those concerned with environmental affairs, and waste recycling contributes greatly to achieving social balance on the one hand and protecting the environment from the dangers of pollution. Preserving it and achieving economic resources on the other hand, through good management and management of waste, The thinking behind the subject of this research was to make use of the types of household waste in ways that are aesthetically pleasing and beneficial to all members of society and to increase the financial income of the family by recycling existing household waste and benefiting from it without spending money on other new materials that may serve the same purpose and to achieve the goals of sustainable development.

Key Words: *Recycling - household waste - increasing financial income for the family - achieving sustainable development goals*

The Introduction

Our planet is replete with many natural resources and rich good things of various types and forms. God Almighty has singled out man above all other creatures, distinguished him with reason, and made available to him all these resources so that he can enjoy their goodness and exploit them in reconstructing the earth. He has made him a successor on earth apart from all other creatures, provided that he does not cause corruption in it.

But in man's endeavor to gain the earth's bounties, he has corrupted it and exhausted it greatly. Man is the main cause of causing pollution in the environment, as there has become a huge danger everywhere, which has become a major threat to all aspects of biological existence and the components of future life in it, and the destruction of inestimable natural resources. At a price.

The rapid and noticeable developments that have led to a major deterioration in the environment in the past decades, such as pollution, increasing depletion of natural resources, pollution resulting from waste gases, damage to the natural environment as a result of industrial

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exhausts and waste, cutting down trees, shrinking green spaces, and acid rain, have led to an increase in environmental awareness among consumers. The emergence of various associations and bodies calling for the preservation and preservation of the environment.

Research Problem

Recycling household waste is an important issue at the family, community and state levels in terms of sustainable development and increasing family income

In this research, we will discuss avoiding the problem of not recycling household waste

The research problem is formulated in the questions:

- 1-What are the effective methods of recycling household waste in reducing environmental pollution?
- 2- How effective is household waste recycling in increasing family income?
- 3-What are the effective ways to achieve the sustainable development goals using household waste recycling?

Research Aims

- 1-Converting waste into reusable products.
- 2-Utilizing waste to save money and increase family income
- 3-Achieving sustainable development goals using recycling.
- 4-Spreading the community's environmental awareness and sense of responsibility towards it and urging them to participate in recycling.

Research Importance

- 1- Maintaining oxygen levels in the environment.
- 2- Reducing the volume of waste collected in landfills.
- 3-Helping the community with ideas for recycling waste, whether metal, plastic, paper, organic waste, etc.
- 4-Reducing the rate of environmental pollution and global warming.

Research Hypotheses

- 1-There are effective ways to recycle household waste to reduce environmental pollution.
- 2-There is a correlation between recycling household waste and increasing family income.
- 3-There are statistically significant differences in achieving sustainable development goals using household waste recycling.

Search Limits

- 1Time limits: 1444 AH
- 2-Spatial boundaries: King Khalid University of Sciences and Arts in Mahayil Asir
- 3-Human limits: a random sample of female students at King Khalid University of Science and Arts in Tihama

Research Methodology

Descriptive Analytical Method

In recycling household waste and in compiling the theoretical framework and previous studies for the research.

Experimental Method

Preparing products from household waste as utilitarian and functional products that help provide family income.

Search Procedures

- 1-Preparing a research plan
- 2- Preparing the theoretical framework, which includes:
 - Recycling
 - Household waste
 - Family financial income
 - Sustainable development goals
- 3- Numbers of previous studies related to the topic
- 4-Preparing a questionnaire presented to the beneficiaries to measure the effectiveness of the research in implementing products to provide financial income for the family and recycling
- 5-Preparing some products from household waste to provide financial income for the family, such as:
 - Make a storage box for waste paper
 - Making mirrors on the wall from plastic waste
 - Make liquid soap for washing utensils from used cooking oil
 - Making candy from organic waste, which is orange peels
 - Making vases from organic waste
 - Make a baby blanket from leftover fabric
- 6-Application of the questionnaire
- 7- Drawing and discussing results
- 8-Recommendations and proposals

Search Terms

First / Recycling

Recycling means processing used materials (waste) into products useful to humans. This process also helps reduce the consumption of raw materials, reduce energy consumption and reduce water and air pollution.

Second: Household Waste

Household waste is defined as any organic or inorganic materials that come out of homes, including dust, garden waste, shops, stores, restaurants, and street sweepers (Abdul Wahab, 1997, p. 26).

Third: Financial Income

Financial income is a pool of capital distributed over time, each capital corresponding to a term or period of maturity

Fourth: Sustainable Development

Sustainable development is development that takes into account the social and environmental dimensions in addition to the economic dimensions for the proper exploitation of available resources to meet the needs of individuals while preserving the rights of future generations.” Mahmoud - 2015 “Journal of Research in the Fields of Specific Education”

The Theoretical Framework

- Recycling
- Household waste
- Family financial income
- Sustainable development goals

The First Axis: Recycling

Introduction to the Recycling Process

We can define recycling as an interconnected process that begins with all materials that can be recycled and then sorted according to their types to become usable products.

Recycling leads to reducing factories' dependence on natural materials as basic raw materials for their products, thus reducing reliance on recovering raw materials, providing new industrial opportunities for capital owners, and providing new employment opportunities while saving significant energy. Recycling is considered the ideal solution for getting rid of waste.

(Al-Azri, Ahmed bin Salem, (2010) entitled: Recycling and Recycling, Omani National Commission for Education, Culture and Science).

Population increases across the world have led to a doubling of industrial, commercial, and consumer activity and an increase in energy consumption and the use of natural resources, which has led to significant damage to the natural environment, including pollution and an increase in the percentage of waste, whether biological or industrial, thus threatening the environmental environment, or rather threatening living in it safely.

(My friend, Zain Al-Din / Jarman, Shams Al-Din (2021-2022) entitled: Recycling as a tool for protecting the environment)

Advantages of Waste Recycling

- 1 - Protecting natural resources from depletion when using recycled materials
- 2 - Getting rid of accumulated waste that negatively affects human life and leads to the emergence of many problems from pollution and malnutrition, in addition to countless diseases
- 3-Providing new job opportunities for a large segment of society
- 4 - Reducing the burning of waste with the aim of getting rid of it and thus reducing the occurrence of environmental pollutants
- 5- Reducing the import of some materials and thus improving the country's economy

Recycling Operations

- 1 - Paper recycling : It is considered a first-class economic process according to environmental protection statistics in the United States
- 2 - Plastic recycling : Plastic is divided into many types that can be summarized into two main types: dry plastic and plastic bags.
- 3 - Recycling metal waste: It consists of aluminum and steel, which can be remelted in iron and aluminum foundries . Aluminum is one of the most recycled consumer products in the world.
- 4 - Recycling of biological waste: Biological waste includes food residues and the products of tree and field pruning. These wastes are recycled in units that manufacture organic fertilizer to produce materials of high fertilizer value.

Household Waste

Since the presence of man on the surface of the Earth, he has been found with waste residues as a result of his various activities. In the beginning, it was mostly organic waste, and it was not a cause for concern because it decomposed with the soil and did not harm it, but with the passage of time, especially after the industrial revolution, which led to the diversity of activities and the diversity of waste. Especially the industrial ones, which pose a threat to both the environment and humans, sounding the alarm for the spread of the phenomenon of environmental pollution of various kinds. Scientists began to pay attention to environmental problems with the increase in population growth and the accompanying diversity of activities and diversity.

Consumption patterns and the resulting waste and refuse. Household waste is one of the most important causes of environmental pollution in cities, where more than half of the world's population now resides.

Waste Concept

Waste is a language from the word “nafu” , which means “waste something” and means the rest of it and its waste

Terminologically, the World Health Organization has defined waste as “some things that their owner no longer wants at a certain place or time and which no longer have any importance or value.”

Household waste problems: Failure to follow correct methods for disposing of household waste, especially hazardous waste, is harmful to the environment and one of the most prominent household waste problems, as the task begins at home by reducing the materials to be disposed of, and thinking about whether it is possible to reuse them instead of throwing them away. Or send them to places designated for recycling, such as paper, glass, empty bottles, cans, and others that can be dismantled and reused. Household organic waste can also be converted into natural fertilizer instead of throwing it in the trash, which contributes to preserving the environment and nourishing the soil with important elements.

These are household wastes that have an organic or mineral source, and this classification is based on the physical composition of the waste. These organic materials are a combination of materials that can be fermented, such as food remains, plant remains, and animal waste . There are inorganic solid household wastes, which are non-degradable wastes such as plastics and metals. And special materials, and this type of waste poses a great danger to human health and the environment due to its inability to decompose.

2- Household waste that is susceptible to decay and non-decomposition:

Household waste that is subject to decay contains organic materials that rot very quickly, especially in seasons of high temperature, and as a result of this Rotting produces unpleasant odors that cause the proliferation of insects, bacteria, and the spread of rodents, which leads to a major impact on health and the environment in general. Among these wastes, for example, food remains, animal waste, in addition to rotten fruits and dead animals, in addition to the other type, which is waste that is not susceptible to rotting, for example, leftovers. House construction, wood and plastic

Classification of Household Waste: Organic household waste: It consists of organic materials of plant or animal origin that are subject to fermentation and rotting, such as food waste from vegetables, fruits, bread, and meat, as well as animal waste. These are wastes that cannot be burned and are treated by turning them into fertilizer for the soil - inorganic household waste (industrial). It includes plastics, synthetic fibers, glass, metals, and medicine boxes. They require a long time to decompose, and some do not decompose at all. Some of them are wastes that can be burned, such as wood, paper, and cloth, and some are wastes that cannot be burned, such as batteries, glass, and metals.

The Repercussions of Household Waste on the Health of Members of Urban Families

The World Health Organization has shown that there is a relationship between waste management and the spread of diseases in urban areas, as 22 of the epidemics and diseases that affect urban residents, including urban families, are due to the weakness of the methods used in waste disposal, starting from the citizen to the general administration, especially with the increase in population.

The environment is the place in which a person lives and produces his health. The health of society is reflected in the health of its environment, given that there is an influence and influence between them. Unfortunately, the condition of the urban environment in the Arab countries does not have the elements of sound health for its inhabitants and their sound growth. Pollution of various kinds has spread through it, which has led to... It leads to the deterioration of the environment, the ill health of people in it, and their affliction with various types of physical, psychological and mental diseases. Considering Disease is no longer limited to the presence of a defect in the body only, and may occur for multiple reasons, including social, environmental, genetic, or psychological. Among the health effects are the lack of cleanliness and the spread of dirt, waste, and various residues that threaten the health of family members in the city. Cleaning workers are among the people most exposed to health risks because they deal with waste and dirt directly and on a daily basis. In addition to families and individuals who live near the presence of waste, especially in the case of open dumpsites, which provide a suitable environment for the proliferation of microbes, viruses, and bacteria. And longer Kids more They are vulnerable to diseases because they play near waste thrown in the streets, and they may also play with waste sometimes

There are a huge amount of tools and things that people use in their daily lives, whether this use is done properly or not. Naturally, these uses result in a group of waste that we may not need at home again, and many of us resort to getting rid of it and throwing it in the garbage.

These materials and objects resulting from daily or weekly human uses and practices are known as household waste.

Reasons for the Spread of Waste

- Adopting improper waste disposal methods, such as throwing waste outside the containers designated for it.
- It is not possible to absorb the huge amount of waste in the landfills designated for it, and thus it loses its basic function and becomes a source of germs and unpleasant odors.
- Slow disposal of waste by sanitation workers;

Methods of Disposing Household Waste

- Use several containers so that waste is separated and sorted according to its type before disposal. Such as placing plastic materials together, wooden materials together, and so on
- Send recyclable trash; Such as glass, plastic and paper waste is transported to a local waste recycling center, where it is processed by natural or chemical methods
- Collect household items; Such as toys, clothes, and similar reusable items, then start selling them to stores that specialize in used items, or clean them and distribute them to relief organizations for those in need.
- Dispose of liquid waste in the garbage before throwing it away to avoid unpleasant odors and the spread of insects

Make sure to put the garbage that will not be used in any other way in tightly sealed bags, then place it in the container and close it tightly to prevent animals from reaching it and taking it out, and also make sure to place the container within sight of the cleaners.

There are ways in which the properties of hazardous solid waste can be changed to make it non- hazardous or less dangerous, after which it can be dealt with more safely, so it can be transported, collected, stored or disposed of without causing harm to humans and the environment. And from the roads

The following is used :

1-Backfilling or Landfill Health: Prepare Backfilling from Months Roads followed

sanitary landfill sites must have special engineering specifications, as they rely on compacting the solid waste to absorb the largest amount, reduce permeability, and cover the waste with an insulating, impermeable clay layer. The landfill site must also be chosen after a geological study of all alternative sites to ensure that the environment is not harmed by fluid leakage

Resulting from the decomposition of groundwater waste.

2- Burning: This method is one of the most common methods

level in the world in recent years, and is carried out either by high-tech incinerators or simply open burning in yards. This method is used due to the lack of available spaces for landfilling.

Healthy.

3-Waste recycling: It is the reprocessing of waste after collecting and sorting it to benefit from some of its components for different purposes .

4 - Organic decomposition: It is the conversion of solid organic waste into organic fertilizers that represent a material that improves the properties of agricultural soil through organic fermentation or biodegradation and recycling materials.to its natural role. Dr. Muhammad , solid waste, p. 6

Axis: Family Financial Income

Household income or household income is the total income of all individuals in a given household or people who share a residence.

This includes every form of income; Including salaries, wages, retirement income, government cash transfers and investment gains. It is a standard for determining the standard of living of a family, and the average family income is used to determine the indicator of the level of well-being of citizens in countries.

It is usually termed the money coming into the family as income, which the first thing that comes to mind is to deal with it in what has been termed the budget. The benefits that accrue to the family and the individual from setting the budget are considered to be of great importance, as they are not just accounts, items and divisions, but rather the matter. It goes beyond that to keep the family in a balanced state.

The process of counting income is considered one of the skills of managing family affairs, with the methods of division and dealing that follow, and other important and necessary processes, which are followed by other stages that all flow into one idea, which is meeting the necessary family needs, taking into account the culture and style of each family from others. And every society, and even every country

We will discuss some types of family income

First, Financial Income: There is no doubt that everyone knows the meaning and concept behind financial income, due to the nature of life, experiences, and what humans have achieved in our current era.

Secondly, In-Kind Income: It is diverse, and may be intangible or direct in the life of the family, but its importance is no less than the importance of financial income, and its impact on the family budget is very important.

What are the things that hinder family income?

Saving money is a process that requires continuous commitment to the plans established to achieve the goals that individuals aspire to, but there are a group of things that hinder saving, and therefore companies specialized in financial consulting have identified the five most prominent of them as follows:

- 1-Absence of budget
- 2- Not setting goals
- 3- Excessive spending
- 4-Accumulation of debts

Definition of Budget

It is to develop a table that represents all forms of family income and expenditures in a detailed and accurate manner. With the aim of enabling family members to review their accounts monthly, and calculate what they can save for the future

Budget Advantages

- 1-A budget helps you avoid or get rid of debt
- 2-A budget keeps you organized

- 3- A budget helps you prepare for emergencies
- 4- A budget helps you save money
- 5- A budget helps you move forward

At the end of the third topic, we will talk about how to raise family income

Many families suffer from a low level of their income, which leads to them facing many financial problems, the impact of which may extend to many aspects of family life. Tension and instability may increase in the family as a result of the parents' inability to secure the many financial needs, which leads to... Sometimes many problems arise between them, and this may have a negative impact on the children. Therefore, it is important for the spouses to cooperate together and think of ways that enable them to increase the family's income and meet all of its needs as much as possible.

If you are a university student and need some money, or if you are a housewife and looking for a second activity through which you can earn additional money, there are additional sources of income that can be used to increase your monthly or daily income.

1-Home Food Project

Women can start a project to make meals from home, and women can create a page on social networking sites and publish the cooking work and meals that they make to attract customers.

2-Recycling Household Waste, whether plastic, cardboard or metal. . etc
Sell it or use it at home.

3- Reducing Various Unnecessary Expenses. For example, family members who are accustomed to eating out should begin limiting themselves to eating their meals at home in order to thus save the cost of the meals they pay abroad in exchange for large sums of money.

4-Giving Private Lessons

A family member can give private lessons in one or several subjects to a number of students of different age levels

5- Photography

If you have a photographic camera and skill in photography, you can work as a photographer and with your work this will greatly increase your monthly income, as requests to photograph private party sessions and weddings are widespread these days.

Sustainable Development Goals First, What is Sustainable Development?

Sustainable development is an international economic and social term used by the United Nations to draw a map for environmental, social and economic development worldwide. Its primary goal is to improve the living conditions of every individual in society, develop means and methods of production, and manage them in ways that do not lead to the depletion of the planet's natural resources, so that We do not overburden the planet, nor deprive future generations of these resources (meeting the needs of the current generation without wasting the rights of future generations), and without overusing the natural resources remaining on our planet.

Many of the natural resources that we harness in the service of comprehensive development in our country are constantly decreasing in their sources, as they are (non-renewable), especially sources of energy, water and raw materials, the world's consumption of which has steadily

doubled since the Industrial Revolution, while the prevailing misconception remains that the earth is a non-renewable source. It is depleted of wealth and a source of unlimited energy.

Recycling things has become an urgent need in our current era for several reasons, including the urgent economic need in this era, as well as creating job opportunities for many groups, including young people and women. Recycling is also considered a national trend to maximize the trend of sustainable development to achieve social justice in the use of resources for future generations.

It is impossible to establish a livable, sustainable city without rational solid waste management. It is no longer just a matter of technical solutions. There are climate, health and safety implications as well as important social considerations, from including waste and rubbish pickers to changing behaviors so that people and communities are encouraged to reduce and recycle waste.

Sustainable Development Goals

To the challenges related to poverty, inequality, climate, environmental degradation, prosperity, peace, justice, education, health, social protection, and job opportunities, and recognizes the interconnectedness of these goals, and the importance of placing them within its national strategy.

Previous Studies

1-Study by Morsi, Duaa Samir, Siddiq, Hossam El-Din And Al-Haqqani , Ibrahim Muhammad (2016) Entitled: “ An Economic Study of Agricultural Waste Recycling in Egypt . ”

The study aimed to maximize the use of waste, which results in increasing the economic return for farms, which in turn leads to increasing the added value of the agricultural sector on the one hand and preserving the environment on the other hand.

The study concluded by examining the importance of recycling, showing that the most important benefits that accrue to farmers from recycling waste are an increase in obtaining additional income, providing a source of cheap feed and fertilizer, and an increase in the cleanliness of the place.

2-A Study by Bani Khalid, Mishal Halil (2022 AD) Entitled: “ The Reality of Syrian Refugees’ Work in the Field Of Waste Recycling as their Source. ”

The study aimed to analyze waste recycling activity in Jordan and determine its economic impact, identify the role that waste recycling plays in reducing waste disposal costs, and find alternative solutions to reduce the burden on municipalities as well as Syrian refugees by finding a source of income accessible to all.

The study concluded that the waste recycling process provides many investment opportunities, and is suitable for all economic levels. Through the waste recycling process, several small, medium or large projects are established, whether for individuals or institutions. The vision for waste varies from country to country, as some see... Some countries consider waste an environmental burden that must be eliminated, while other countries see it as an investment opportunity

For others, some countries see waste as an environmental burden that must be eliminated, while other countries see it as investment opportunities.

For others, some countries see waste as an environmental burden that must be eliminated, while other countries see it as investment opportunities, and it is worth noting.

3- University Study, Badis Abdel Hamid (2021) Entitled: “ The Incidence of Global Electronic Waste Recycling .”

The study aimed to define the basic concept of waste and electronic waste, reveal the risks that can be generated from electronic waste, and know the importance of the recycling process for electronic waste.

The study concluded that electronic waste is a problem facing all countries of the world.

Electronic waste is a very hazardous waste and a valuable resource due to the presence of high percentages of precious and expensive metals and raw materials such as gold and silver.

4-Study By Al-Adawi, Hossam Ramzy Ali (2020) Entitled: “ Using Recycling in the Interior Design of Low-Cost Housing”

The study aimed to achieve many objectives ranging from economic , environmental and cultural objectives, including:

Emphasizing the importance of recycling waste and consumable materials and converting them into raw materials with great economic feasibility that can be used in.

Manufacture of interior design materials for low-cost housing.

Emphasizing the importance of recycling in preserving the environment by ridding it of harmful substances emitted from waste and consumable materials, and reducing the cutting of trees as a result of the availability of alternative raw materials.

Emphasizing the role of media and popular culture in opposing the idea of living in a house made of recycled materials and the importance of this for both humans and the environment by presenting models and examples of it in countries and societies.

The study concluded that recycling consumable materials and waste leads to a double benefit for both humans and nature. The recycling process also leads to humans obtaining free or cheap raw materials to produce various goods, including internal and external building raw materials and materials for constructing and finishing the house, and furnishing it with furniture. Modern and characterized by its low cost of production.

5- A Study by Mahmoud, Muhammad Mohieddin and Hussein , Fatima Ahmed Entitled: “ The Feasibility of Using Recycled Cardboard in Implementing Sustainable Furniture Units. ”

The study aimed to benefit from recycled cardboard in implementing sustainable furniture units

The study concluded that tens of tons of paper waste can be invested in.

Differed types in producing inner layers (corrugated layer)

For some types of cardboard that can be used as alternative materials

Especially effective for products of a functional nature, such as furniture.

The study also concluded that making cardboard furniture contributes to providing wood protection

Environmental and green), saving water and energy, and disposing of waste. Laboratory studies and tests have shown the possibility of using cardboard pieces of the required sizes and interlocking them to create distinctive furniture units.

6- A Study By Youssef, Al-Nabawi And Ghali, Randa Yousry (2022) Entitled: “ Recycling the Outcomes of Training And Practical Tests in the Department of Clothing And Textiles to Implement Clothing Pieces for Girls.”

The study aimed to:

- 1- Utilizing the outcomes of training and practical tests in the Clothing and Textile Department to implement some suitable clothing pieces for girls
- 2-Contributing to the disposal of accumulated waste from training and practical tests in a useful way
- 3-Achieving the principle of sustainability by using pieces of fabric resulting from training and tests and recycling them to create new clothing pieces for girls.

The study concluded that the results of the questionnaires for specialists and consumers showed the extent of their acceptance of pieces made from leftover fabrics in terms of achieving the aesthetic, functional and economic aspects, and the extent to which specialists in the field of clothing accept the idea of recycling the outcomes of training and practical tests in the Textile Department to reduce the problem of environmental pollution and capital waste. When will the consumer accept the executed piece and their desire to wear it as a new garment to keep it in line with fashion and its ability to fulfill the consumer's requirements at that age stage?

7- Study by Al-Nabawi, Safinaz Muhammad (2020) Entitled: “ Recycling Fixed Clothing Accessories and Using Them to Enrich the Art of Jewelry . ”

The study aimed to 1- Prepare a collection of jewelry by taking advantage of the fixed complement of used clothes

- 2- Measuring the opinions of specialists and consumers about the proposed jewelry

The study concluded:

- 1-The possibility of recycling fixed clothing accessories to create women's jewelry while achieving their aesthetic aspect
- 2-The possibility of obtaining new designs of jewelry at the lowest costs, which achieves the economic aspect
- 3- The possibility of using recycled clothing supplements to create innovative jewelry designs, which achieves the functional aspect
- 4-The possibility of accessing multiple methods of making jewelry using fixed recycled clothing supplements, which achieves the innovative aspect

8-Study by Abdel Moneim, Rania Mahmoud (2020) Entitled: “ Women's Awareness of Human Resources Management and its Impact on their Recycling of Household Waste. ”

The study aimed to study women's awareness of human resources management and its reflection on their recycling of household waste as it is the backbone and basic pillar of society.

The study reached

- 1- There are statistically significant differences in women's awareness and there are statistically significant differences in women's recycling of household waste.

2-The educational level of women is the most influential factor in explaining the percentage of variation in women's awareness of human resources management

9- Al-Alami's Study, Hala Othman Shata (2021), Entitled: " Recycling The Men's Shirt to Implement Clothing Designs to Maximize the Role of Sustainable Development . "

The study aimed to

- 1-Learn how to use used parts to make other new products
- 2- Linking scientific research to community service
- 3- Spreading the culture of sustainable development and our need for it in the current era
- 4- Clarifying the relationship between recycling and sustainable development.

The study concluded that achieving the research hypotheses confirmed the importance of benefiting from recycling clothes, especially men's shirts, the importance of reusing them in enriching the aesthetic and functional values of pre-school children's clothing designs, in addition to rationalizing spending on purchasing clothes to achieve sustainable development and preserve the environment.

10-Study by Al-Hajj, Othman Abdullah (2021) Entitled: " Recycling Plastic Waste in Sculpture Works Using Aesthetic Plastic Methods. "

The study aimed to: -

- 1-Producing sculptural works from plastic and plastic waste
- 2- Introducing the methods and techniques of plastic and plastic treatments in sculpture

The study concluded: -

- 1- The possibility of using plastic and plastic waste in sculpture works has become clear
- 2- Modern era techniques and technology have produced for us plastic and plastic raw materials with properties that contribute to the production of new sculptural works.
- 3- Familiarity and knowledge of the properties of the plastic material makes it easier for us to choose the correct method in implementing sculpture works
- 4- It was noted from the models that multiple materials of plastic and plastic waste of different colors and sizes were used

Applied Framework

Research Methods and Procedures

The Goal of the Experiment

Recycling some household waste and identifying its returns on increasing family income and achieving sustainable development

_ Preparing for an Experiment

Many ideas were searched for to recycle some household waste in order to achieve the research goal, increase family income , and achieve sustainable development .

The research has reached more than one idea, which are:

Idea:

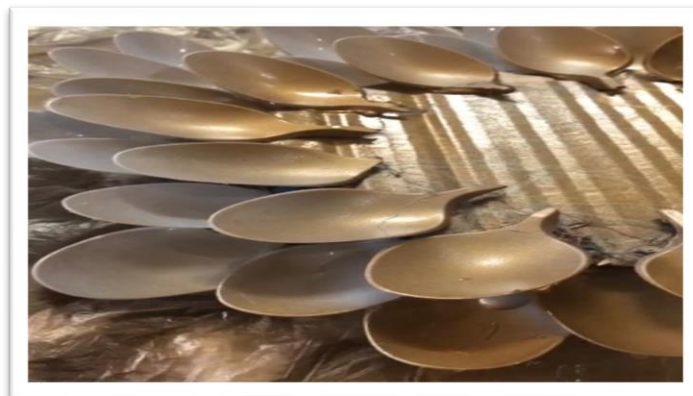
It aimed to benefit from plastic parts and recycle them



It was implemented as follows:

First: We take a cardboard and take the mirror marks

Second: Take plastic spoons and attach them around the cardboard in this way using glue



Third: Color the plastic pieces in any color you prefer, or spray them using a colored spray



Fourth: The Final Form

Second Idea

I aimed to benefit from cardboard and recycle it in an elegant way.

It was implemented as follows:



Recycling Household Paper Waste

1-We cut the edges of the upper cardboard and use the remaining fabric at home to wrap it completely.



2- We bring the larger cardboard and cover it with cloth. We also cut the edges of the excess cloth.



3-We continue covering the remaining part of the carton with burlap.



4- We install the piece of cardboard that we made first inside the cardboard to complete the final shape and we have an elegant box used as an organizer for children's toys or cosmetics.

Third Idea

It aimed to utilize leftover fabrics and recycle them to make a baby quilt, and it was implemented as follows:

Recycling leftover fabrics to make a baby blanket:

- 1-We cut the fabrics into equal sizes and put the pieces together.
- 2- After assembling the pieces and sewing .
- 3- We collect the lining and the fabric and sew them together, leaving a space Simple , no-sew turning of fabric.
- 4- After turning the fabric inside out
- 5-We hand- stitch the remaining part to complete the final shape.

Fourth Idea

It aimed to benefit from organic waste (grape bunches) and recycle them

It was implemented as follows:

First: We take any container, whether metal, plastic, wood, or other, and we recycle it and color it in your favorite way.

Second: We take wool threads in the appropriate color for the box And cut it into small pieces

Third: Gluing the wool threads to the bunch of grapes using transparent wood glue

Fourth: The Final Form

Fifth Idea

I aimed to utilize leftover boiling oil and recycle it into making liquid soap.

It was implemented as follows:

Dish washing soap from used cooking oil:

1-Add half a cup of water and three tablespoons of sodium hydroxide and stir until it dissolves.

2-After melting, add half a cup of used oil and stir.

3-Grate the remaining solid soap (Dove) available at home, put it on the rest of the ingredients, and stir well.

4-We add a cup of laundry soap, stir, and leave the ingredients for a few hours to dry, solidify, and become a little solid.

5-Then put the soap and its ingredients on the fire with two liters of water and stir well until the soap granules dissolve.

6-When you remove it from the heat, add half a cup of sugar and continue stirring.

7- Add a spoonful of glycerin oil.

8 Two cups of liquid soap (Fairy) and stir well...

9-A spoonful of lemon salt and stir the soap well for the last time

Then the soap is ready for use.

Sixth Idea

It aimed to benefit from organic waste (orange peels) and recycle them.

It was implemented as follows:

First: We take orange peels and cut them as desired

Second: Put the orange on the fire for two minutes

Third: Drain the orange from the water and place it in an airtight container in the refrigerator for 7 days, changing the water every day to get rid of the bitterness.

Fourth: After a week or more has passed and we are sure that the taste of the orange is not bitter, we measure the orange and take the same amount of sugar and water from the orange and put it on the fire until it absorbs the solution.

Fifth: We halve the oranges and wait for them to cool. Then we cover them with coarse sugar and store them in a jar or a sealed box.

Household Waste Recycling Questionnaire

Objective of the Questionnaire

The researcher designed the questionnaire with the aim of identifying community opinions on recycling household waste to increase family income and achieve sustainable development goals.

Building the Questionnaire

The questionnaire included basic information for the research and a set of statements related to the community's opinions on recycling household waste to increase family income and achieve sustainable development goals, the sequence of information, clarity of language, and the use of a three-way rating scale (yes - no - maybe) .

A set of personal questions

A set of questions

About recycled products

Correcting the Questionnaire

The number of questionnaire statements reached (16) statements that were formulated in the form of questions that were answered with (yes - no - perhaps). Correction is made by converting the marks set by the community into a percentage.

Verifying the First Hypothesis

The answer to the first question which states: What are the effective ways of recycling household waste in reducing environmental pollution?

To verify the first hypothesis which states: There are effective ways to recycle household waste to reduce environmental pollution.

By asking a set of questions for a questionnaire:

- 1-Do you think we can make use of plastic leftovers at home and make mirrors like the figure below?
- 2- Have you ever used leftover cardboard and cloth to make new products like the one shown below?
- 3-Have you ever used leftover fabric to produce new materials, such as a quilt for a child?
- 4-Do you think that recycling organic waste , such as the figure below, reduces environmental pollution?
- 5-Is there a relationship between recycling household waste and reducing environmental pollution?
- 6-Have you tasted candy made from leftover orange peels?
- 7--In your opinion, can we benefit from orange peels instead of throwing them away?

The Answer to the Second Question States

How effective is household waste recycling in increasing family income?

To verify the second hypothesis, which states: There is a correlation between recycling household waste and increasing family income.

By asking a set of questions for a questionnaire:

- 5- In your opinion, can we benefit from boiling oil and make liquid soap instead of throwing it away?

- 8-Do you think that recycling household waste may increase family income?
- 9- Is there a relationship between recycling and saving money?
- 10- Do you accept the purchase of recycled products of approximately the same quality and lower price?

The answer to the third question which states:

-What are the effective ways to achieve the sustainable development goals using household waste recycling?

To verify the third hypothesis, which states:

There are statistically significant differences in achieving sustainable development goals using household waste recycling.

By asking a set of questionnaire questions:

- 9-Does waste recycling contribute to achieving sustainable development goals?
- 10-Neglecting waste and not recycling it leads to huge losses in the country

Results, Discussion, Recommendations and Proposals

Research Results

The current research reached the following results:





- 1-Recycling organic waste reduces environmental pollution.
- 2- Recycling household waste may increase family income
- 3--There is a relationship between recycling household waste and reducing environmental pollution.
- 4-The results also revealed that there is a relationship between recycling and saving money.
- 5-Recycling contributes in many ways to achieving sustainable development goals
- 6- There is a direct relationship between recycling waste and increasing family income
- 7-There is also a positive relationship in recycling waste and reducing environmental pollution
- 8-Recycling achieves sustainable development goals

Recommendations

In light of the results reached by the researchers, the following are:

- 1- Benefiting from recycling to increase family income
- 2- Intensify recycling to help reduce environmental pollution
- 3- Benefiting from recycling to achieve sustainable development
- 4- We can benefit from fruit peels instead of throwing them away and make candy, jam, and other food recycling
- 5-There is a large sample of the target group that accepts purchasing recycled products of approximately the same quality and a lower price
- 6-Neglecting waste and not recycling it leads to huge losses in the country

Accessories

The Answer			Wondering
maybe	no	Yes	<p>Do you think we can make use of the plastic leftovers at home and make mirrors, for example, like the figure below ?</p> 
maybe	no	Yes	<p>Have you ever used leftover cardboard and cloth to make new products like the one shown below?</p> 
maybe	no	Yes	<p>Have you ever used leftover fabric to produce new materials, such as a quilt for a child?</p> 
maybe	no	Yes	<p>-Do you think that recycling organic waste like the figure above reduces environmental pollution?</p> 
maybe	no	Yes	<p>- In your opinion, can we benefit from boiling oil and make liquid soap instead of throwing it away?</p>

The Answer			Wondering
maybe	no	Yes	Do you think that recycling household waste may increase family income ?
maybe	no	Yes	7- Is there a relationship between recycling household waste and reducing environmental pollution?
maybe	no	Yes	Is there a relationship between recycling and saving money?
maybe	no	Yes	Does waste recycling contribute to achieving sustainable development goals?
maybe	no	Yes	Neglecting waste and not recycling it leads to huge losses in the country
maybe	no	Yes	Are you willing to buy recycled products of approximately the same quality and less expensive?
maybe	no	Yes	Have you ever tasted candy made from leftover orange peels? In your opinion, can we benefit from fruit peels instead of
maybe	no	Yes	throwing them away?



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