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## A Study on Effectiveness of Eco Friendly Pots

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**ABSTRACT:** Plant pots made out of recycled materials, such as discarded bicycle parts, offer a sustainable solution to reduce waste and promote eco-friendliness. These plant pots can be made from a variety of recycled materials, including metal frames, handlebars, rims, and pedals. By transforming these materials into plant pots, they can be given a new life and purpose while simultaneously reducing the amount of waste that would have otherwise ended up in landfills or oceans. Additionally, using recycled materials in the production of plant pots helps to conserve natural resources and reduces the need for virgin materials. In conclusion, plant pots made out of recycled materials are a sustainable and eco-friendly alternative to traditional plant pots, and can contribute to a more circular economy.

**KEYWORDS:** Eco-friendly , Bio-degradable pots, plant pots, plastic waste , Recyclable waste.

**INTRODUCTION :** Plant pots made out of recycled plastic are becoming increasingly popular due to their sustainability and eco-friendliness. These pots are created by repurposing plastic waste such as bottles, bags, and containers, which would otherwise end up in landfills and oceans, contributing to environmental pollution. By utilizing recycled plastic in the production of plant pots, these materials are given a new life and purpose, reducing the demand for virgin plastic and conserving natural resources. Additionally, recycling plastic requires less energy and produces fewer greenhouse gas emissions than producing new plastic. Plant pots made from recycled plastic are also durable, long-lasting, and come in a variety of shapes, sizes, and colors, making them an attractive option for indoor and outdoor gardening. Overall, plant pots made out of recycled plastic offer a sustainable and cost-effective alternative to traditional plant pots while reducing waste and promoting environmental conservation.

**Literature Review:** Plant pots made of recycled plastic have gained significant attention in recent years as a sustainable solution for reducing waste and promoting eco-friendliness. The following is a brief review of some of the relevant literature on the subject.

A study by Geyer et al. (2017) estimated that the world has produced 8.3 billion metric tons of plastic since its mass production in the 1950s, of which only 9% has been recycled. The study highlighted the importance of reducing plastic waste by increasing recycling and incorporating recycled plastic into new products, such as plant pots.

A study by Daskalova et al. (2018) evaluated the mechanical and thermal properties of plant pots made from recycled polyethylene terephthalate (PET) and compared them to traditional plant pots made from virgin PET. The results showed that the recycled PET plant pots had comparable mechanical and thermal properties to virgin PET plant pots, indicating that they are a suitable alternative.

A study by Lombardo et al. (2020) examined the feasibility of using recycled plastic waste for the production of plant pots through a life cycle assessment (LCA). The study found that using recycled plastic for plant pots had a lower environmental impact than using virgin plastic, particularly in terms of energy consumption and greenhouse gas emissions.

A study by Alvarado-Lassman et al. (2019) investigated the feasibility of using recycled high-density polyethylene (HDPE) and polypropylene (PP) for the production of plant pots. The study found that the recycled plastic plant pots had comparable properties to traditional plant pots and were a viable option for reducing plastic waste.

Overall, the literature suggests that plant pots made out of recycled plastic offer a sustainable and eco-friendly alternative to traditional plant pots, while reducing waste and promoting environmental conservation. Further research is needed to explore the potential of different types of recycled plastic and to optimize the production process for plant pots

## **Objectives of the study:**

The objectives of a study on plant pots made out of recycled plastic can vary depending on the specific research questions and goals of the study. However, some possible objectives of such a study could include:

- To evaluate the feasibility of using recycled plastic for the production of plant pots, including assessing the mechanical, thermal, and other properties of the plant pots.
- To compare the environmental impact of plant pots made from recycled plastic to traditional plant pots made from virgin plastic or other materials.
- To optimize the production process for plant pots made from recycled plastic to reduce waste and energy consumption.
- To explore the potential of different types of recycled plastic, such as high-density polyethylene (HDPE) or polyethylene terephthalate (PET), for use in the production of plant pots.
- To assess the market potential and consumer acceptance of plant pots made from recycled plastic.
- To investigate the economic feasibility of producing plant pots from recycled plastic, including assessing the costs of production and potential revenue streams.

Overall, the objectives of a study on plant pots made out of recycled plastic would likely aim to assess the viability and sustainability of using recycled plastic as a material for plant pots and to provide insights into potential opportunities and challenges in this area.

The concept of Eco-friendly pots or biopots is fairly new but is well adopted early on as people realise its benefits and uses and how a small change can affect the environment as a whole.

**Research Methodology:** It is important to note that ethical considerations need to be taken into account when conducting research, such as ensuring informed consent, protecting the privacy of participants, and minimizing any potential harm or risks. Additionally, it is important to ensure that the research is conducted with rigor and transparency to ensure that the results are reliable and valid.

i. **Size of the study:** The target audience for this questionnaire was the public who would be owning plants or buy plants regularly. The sample size from which we chose to collect the information was 80 people.

ii. **Sources of data collection:** The data was collected by using Primary and Secondary sources of data collection. The primary data was collected through the medium of questionnaire. The questions were designed according to the target audience. The data collected helps build a better understanding of people who would like to invest in the care of the environment and their surroundings as a whole. The secondary data collected is the published information from reports, research papers, articles, and the internet.

**Research Gap:** Despite the growing interest in plant pots made out of recycled plastic, there are still several research gaps that need to be addressed. Some of these research gaps include:

- **Lack of standardization:** There is currently no standardized methodology for producing plant pots made from recycled plastic, which makes it difficult to compare different studies and products.
- **Limited research on consumer behavior:** There is limited research on consumer behavior towards plant pots made from recycled plastic, including their willingness to pay, perceptions of quality, and purchasing behavior.
- **Limited research on long-term durability:** There is limited research on the long-term durability of plant pots made from recycled plastic, including their resistance to weathering, UV radiation, and other environmental factors.
- **Lack of information on the environmental impact of the entire life cycle:** There is a need for more research that evaluates the environmental impact of plant pots made from recycled plastic throughout their entire life cycle, including production, use, and disposal.
- **Limited research on the economic feasibility:** There is limited research on the economic feasibility of producing plant pots from recycled plastic, including assessing the costs of production, pricing strategies, and potential revenue streams.
- **Overall, these research gaps highlight the need for more comprehensive studies on plant pots made from recycled plastic that consider factors such as consumer behavior, durability, environmental impact, and economic feasibility. Addressing these gaps will help to improve the sustainability and viability of plant pots made from recycled plastic and promote their adoption in the market.**

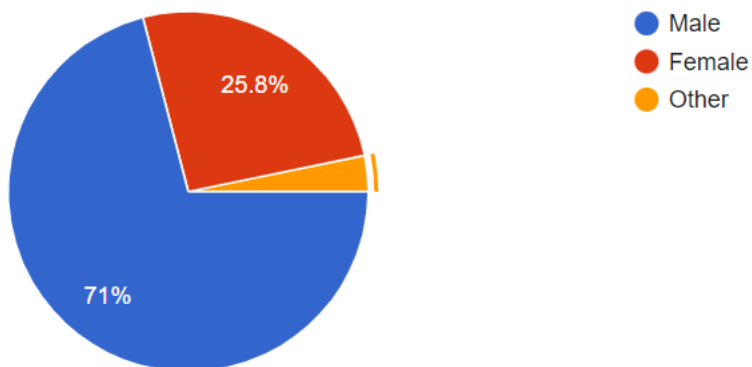
Data Analysis:

### What is your gender

71% Male

25.8 Female

3.2% Other



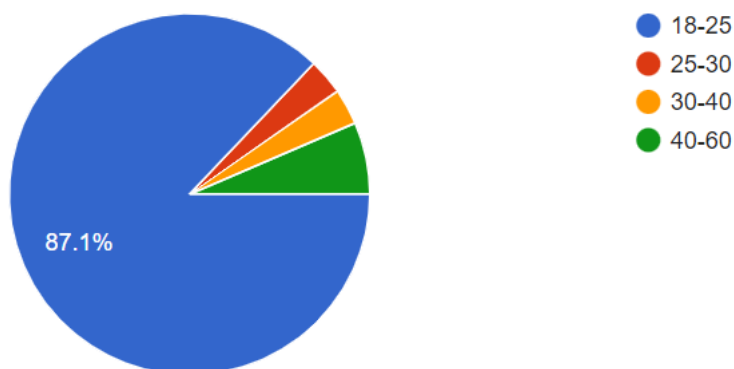
### Age Group

87.1% from 18-25

3.2% from 25-30

3.2% from 30-40

6.5% from 40-60

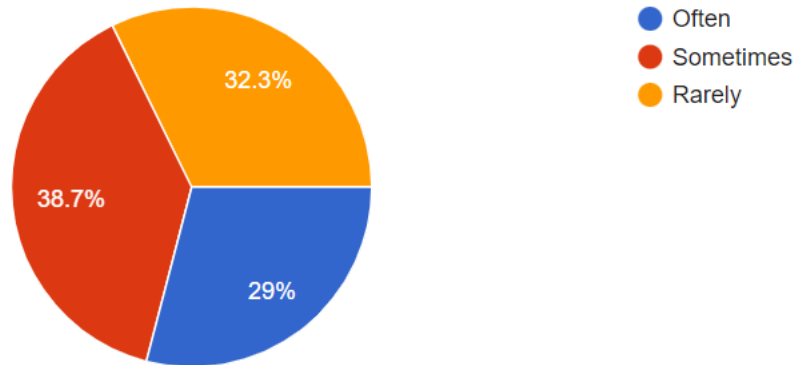


### How often do you purchase plant pots

29% of the people said Often

38.7% of the people said Sometimes

32.3% of the people said Rarely

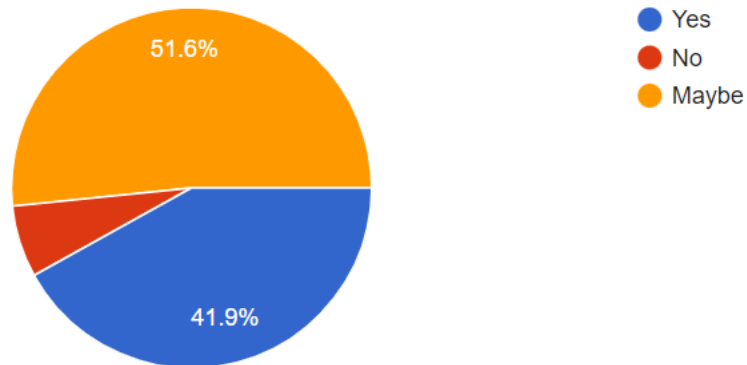


### Are you ready to accept the change in Flower pots

41.9% of the people said Yes

6.5% of the people said: No

51.6% of the people said: Maybe

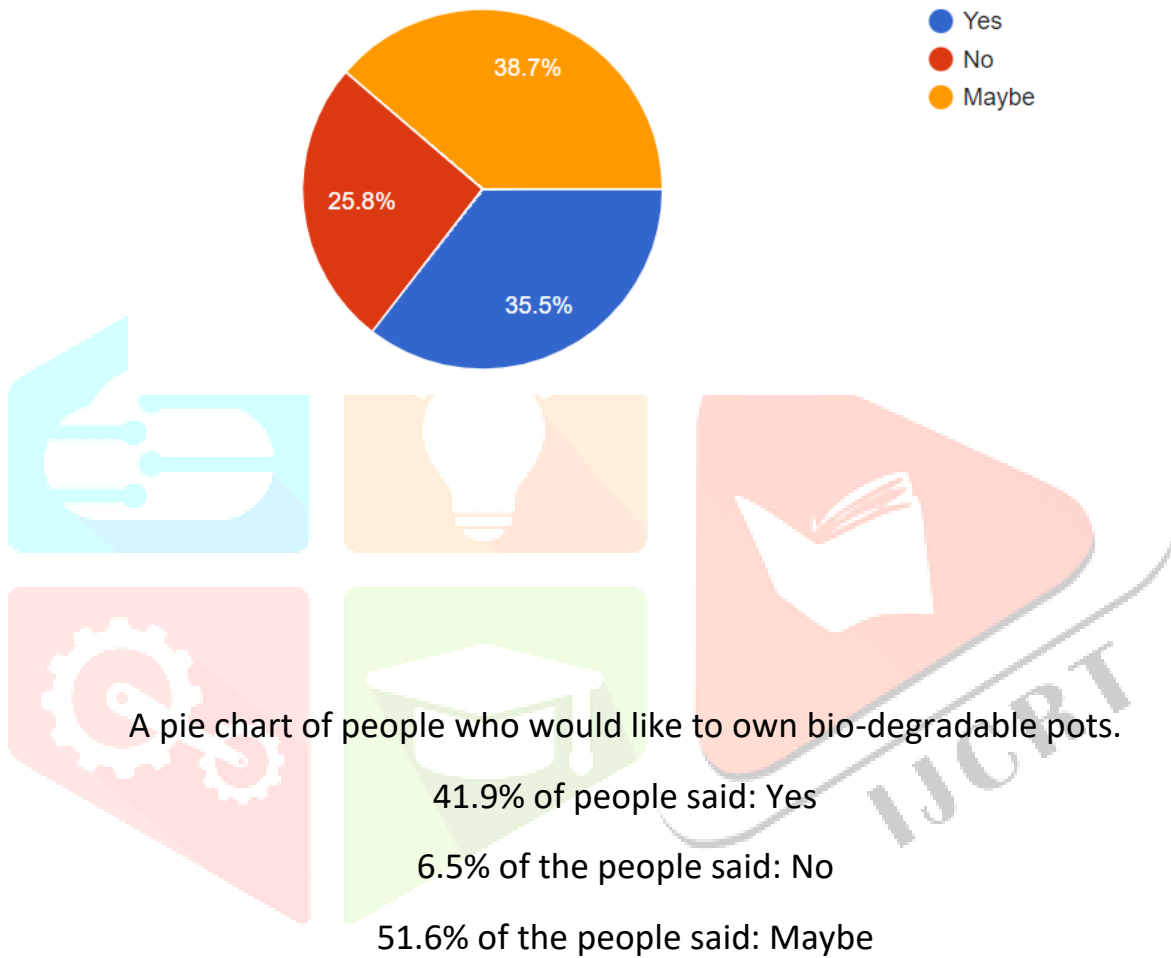


Do you want to be a part of this initiative towards sustainability?

35.5% of the people said Yes

25.8% of the people said No

38.7% of the people Maybe

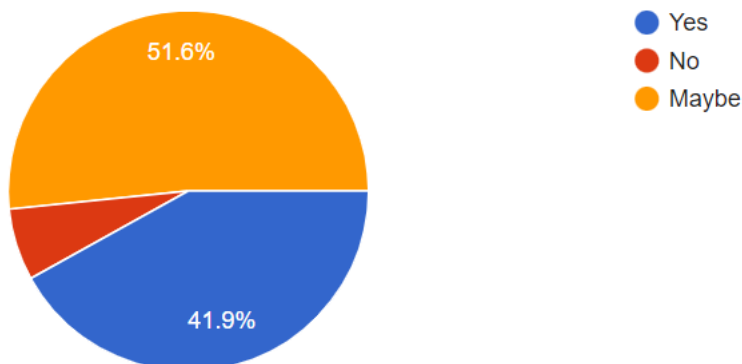


A pie chart of people who would like to own bio-degradable pots.

41.9% of people said: Yes

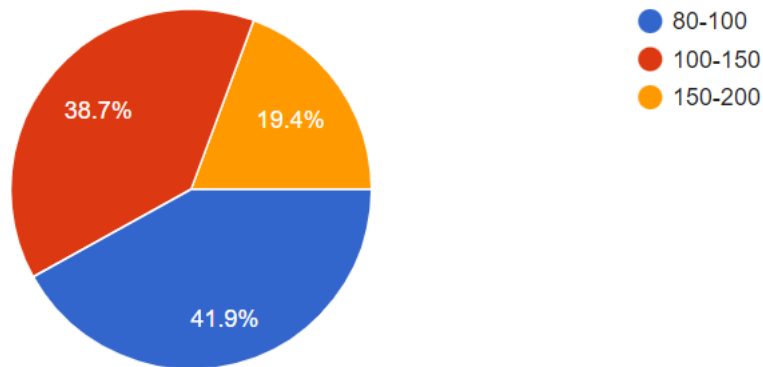
6.5% of the people said: No

51.6% of the people said: Maybe



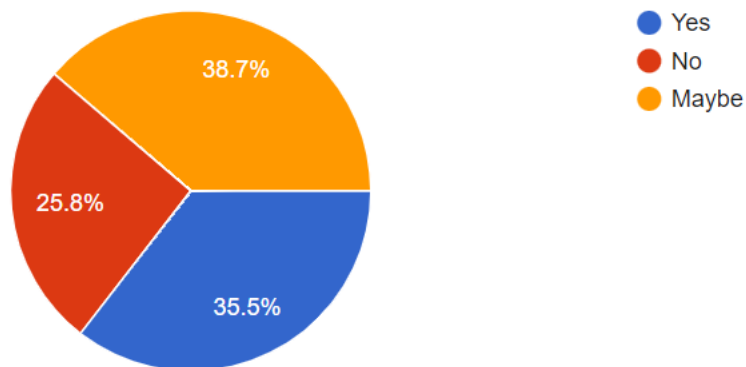
A pie chart of the amount of money people would be willing to pay for bio-degradable pots.

41.9% of the people would pay 80-100  
38.7% of the people would pay 100-150  
19.4% of the people would pay 150-200



A pie chart of people would be interested in investing in a bio-degradable pot company.

35.5% of the people said Yes  
25.8% of the people said No  
38.7% of the people Maybe



**Findings of the study:** From this study we were able to find out people’s perspective over eco friendly plant pots and how they feel about them. We were able to find out how many people would be interested in owning such pots and how many won’t. we were also able to narrow down the price margin according to the likes of the people and if they would be willing to invest in the business.



**Recommendations:** Based on the potential findings of a study on plant pots made out of recycled plastic, here are some recommendations that could be made:

**Increase consumer awareness:** Companies that produce plant pots made from recycled plastic could benefit from increasing consumer awareness of the environmental benefits of using these products. This could be achieved through targeted marketing campaigns and educational initiatives.

**Optimize production processes:** To ensure that plant pots made from recycled plastic are produced in a sustainable and cost-effective manner, companies could explore ways to optimize their production processes. This could involve sourcing recycled plastic from local waste streams, using renewable energy sources in production, and minimizing waste and emissions.

**Improve durability:** To increase the durability of plant pots made from recycled plastic, companies could explore ways to treat the plastic to withstand UV radiation and other environmental factors. This would help to extend the lifespan of the product and reduce the need for replacement.

**Collaborate with local communities:** Companies that produce plant pots made from recycled plastic could benefit from collaborating with local communities to source recycled plastic and develop sustainable production processes. This would help to build relationships with stakeholders and ensure that the production process is aligned with local priorities.

**Explore new markets:** Companies that produce plant pots made from recycled plastic could explore new markets where sustainability is a priority, such as urban gardening and sustainable landscaping. This could help to increase market share and contribute to the development of a circular economy.

Overall, by adopting a sustainable and environmentally conscious approach to product development and production, companies can differentiate themselves from competitors and build a loyal customer base.

**Conclusion:** In conclusion, plant pots made out of recycled plastic offer a sustainable and environmentally conscious alternative to traditional plant pots. While there may be some challenges associated with production processes and consumer perception, studies have shown that there is significant potential for these products in the market. By optimizing production processes, improving durability, increasing consumer awareness, collaborating with local communities, and exploring new markets, companies can capitalize on this potential and contribute to the development of a circular economy. As sustainability becomes an increasingly important consideration for consumers and businesses alike, plant pots made from recycled plastic are likely to become an increasingly attractive option for those seeking a sustainable and responsible choice for their gardening needs.

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