TACKLING HOUSING CHALLENGES IN VULNERABLE COMMUNITIES: SUSTAINABLE CONSTRUCTION USING RECYCLED PET PLASTICS BRICKS

- CIivil Engineering Department
- Facultad Regional Paraná, Universidad Tecnológica Nacional
- Inglés II
- 2024

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INTRODUCTION

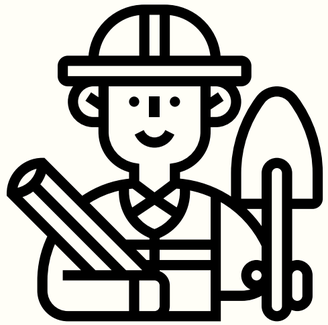
lack of decent housing

- 1.8 billion people worldwide lack adequate housing
- 2 million people evicted per year
- 150 million homeless people in the world

INTRODUCTION

MAP OF THE PRESENTATION

HOUSING CRISIS ANALYSIS: IDENTIFYING AREAS WITH CRITICAL HOUSING NEEDS



SUSTAINABLE HOUSING SOLUTIONS: USING RECYCLED PLASTICS FOR RECYCLABLE BRICKS

FEASIBILITY ANALYSIS

PROBLEM DEFINITION AND ANALYSIS

Contextualization and definition of the problem

- Alarming homelessness statistics

- Global impact of homelessness

PROBLEM DEFINITION AND ANALYSIS

Causes of Homelessness Worldwide

ECONOMIC DISPARITIES

NATURAL DISASTERS AND CLIMATE CHANGE

RAPID URBANIZATION AND POPULATION GROWTH

PROBLEM DEFINITION AND ANALYSIS

Consequences of Homelessness Worldwide

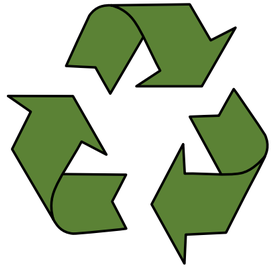
LACK OF BASIC SERVICE

DISPLACEMENT OF COMMUNITIES

INFORMAL SETTLEMENTS

PROPOSED SOLUTION AND ITS RELIABILITY

PRESENTATION OF THE SOLUTION



Plastic recycling as a housing and environmental solution

Functionality and adaptability of houses built with PET bricks

Accessibility and efficient production of sustainable homes

PROPOSED SOLUTION AND ITS RELIABILITY

ADVANTAGES OF USING HOUSES WITH PET BRICKS

THERMAL INSULATION

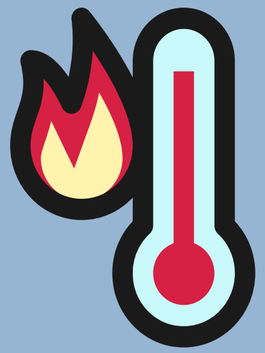
SUSTAINABLE CONSTRUCTION

STRENGTH AND DURABILITY

PROPOSED SOLUTION AND ITS RELIABILITY

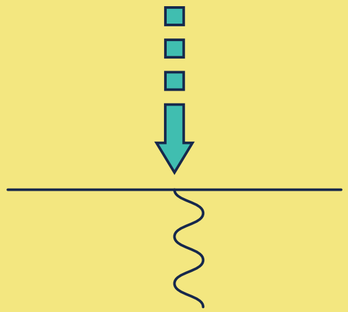
DISADVANTAGES OF USING HOUSES WITH PET BRICKS

SENSITIVITY TO FIRE AND HIGH TEMPERATURES



DIFFICULTY IN REPAIRING

LOW ABSORPTION CAPACITY



PROPOSED SOLUTION AND ITS RELIABILITY

FEASIBILITY ANALYSIS

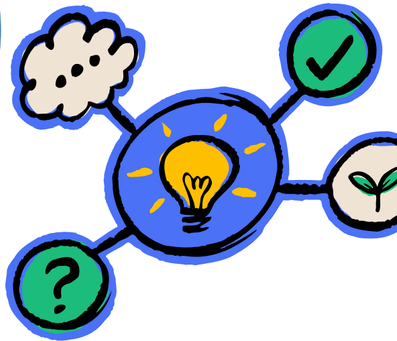
DESPITE THE CHALLENGES, THE BENEFITS OUTWEIGH THE BENEFITS OFFERED BY RECYCLED PET PLASTIC BRICKS.

CONCLUSION

INNOVATION

HOUSING

SUSTAINABILITY



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THANKS!

FOR YOUR ATTENTION

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