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Recycled Plastic Bricks

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Turning Trash into Lifesavers: Bottle Rafts for Flood Events

"It is projected that the global production of thermoplastics will amount to **445.25 million metric tons in 2025**, rising to approximately **590 million metric tons by 2050**—an increase of more than 30 percent compared with 2025." The alarming rate at which plastic is being produced and projected to is concerning as globally 9% of plastic is recycled with 12% being incinerated and 79% of plastic ending up in landfills or the environment, significantly noticeable in the ocean.

Initially plastic was created as a replacement for expensive and natural material as plastic is durable, cheap , and versatile. Becoming deeply embedded in everyday products consumers use daily without realising, from soda cans to clothing, the versatility gave a promising future for progression. However the promised future from plastic created an environmental crisis. The amount of non-biodegradable plastic that was produced at a staggering rate now pollutes the ocean, wildlife habitats, and cities.

Since the properties of plastic were so strong and reliable, factories began to produce 460 million tons of plastic produced annually. But this overproduction leaves a global threat, 98% of plastics are created from fossil fuels, creating greenhouse gas emissions, and less than 9% of plastic is recycled. Also infiltrating the water, soil, and air we breathe. Among the countless

plastic products that have ended up in the landfills or ocean, a prominent product stands out, single use plastic bottles. On a global scale, over 500 billion plastic bottles are consumed each year. Although almost all plastic bottles are made out of recyclable polymer, only 30% actually goes through the recycling system.

To combat the issue with plastic bottles polluting the environment, the idea of flotation devices came to mind as in recent events around the happen to be hurricanes and floods. Mainly keeping the floods in the thought process, using the littered plastic bottles and connecting the plastic bottles in either a horizontal or vertical position to create either a raft large enough for more than one person or just a small one for a singular person. The concept wouldn't cost much as the main materials come from the trashed plastic bottles from their community while the connection for the device may cost at most 15 dollars.

The benefits of implementing an idea such as this would create an educational project for younger children or adults about how plastic pollutes and affects the daily lives of humans while also making life saving devices out of the trash that threatens the globe. The adaptability of this project can be easily replicated in schools, facilities, or indie shops that in an area prone to having floods and recreate the device.

From turning discarded plastic bottles into floatation devices, which addresses the need for low-cost, readily deployable rafts for mild to moderate floods. By harnessing simple materials with community effort, this approach transforms the waste from the environment into a life saving innovation that can be done anywhere. As the National Weather Service issued over 3,600 flash flood warnings, the plastic bottles into rafts offers a practical solution while also being sustainable.

Works Cited

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