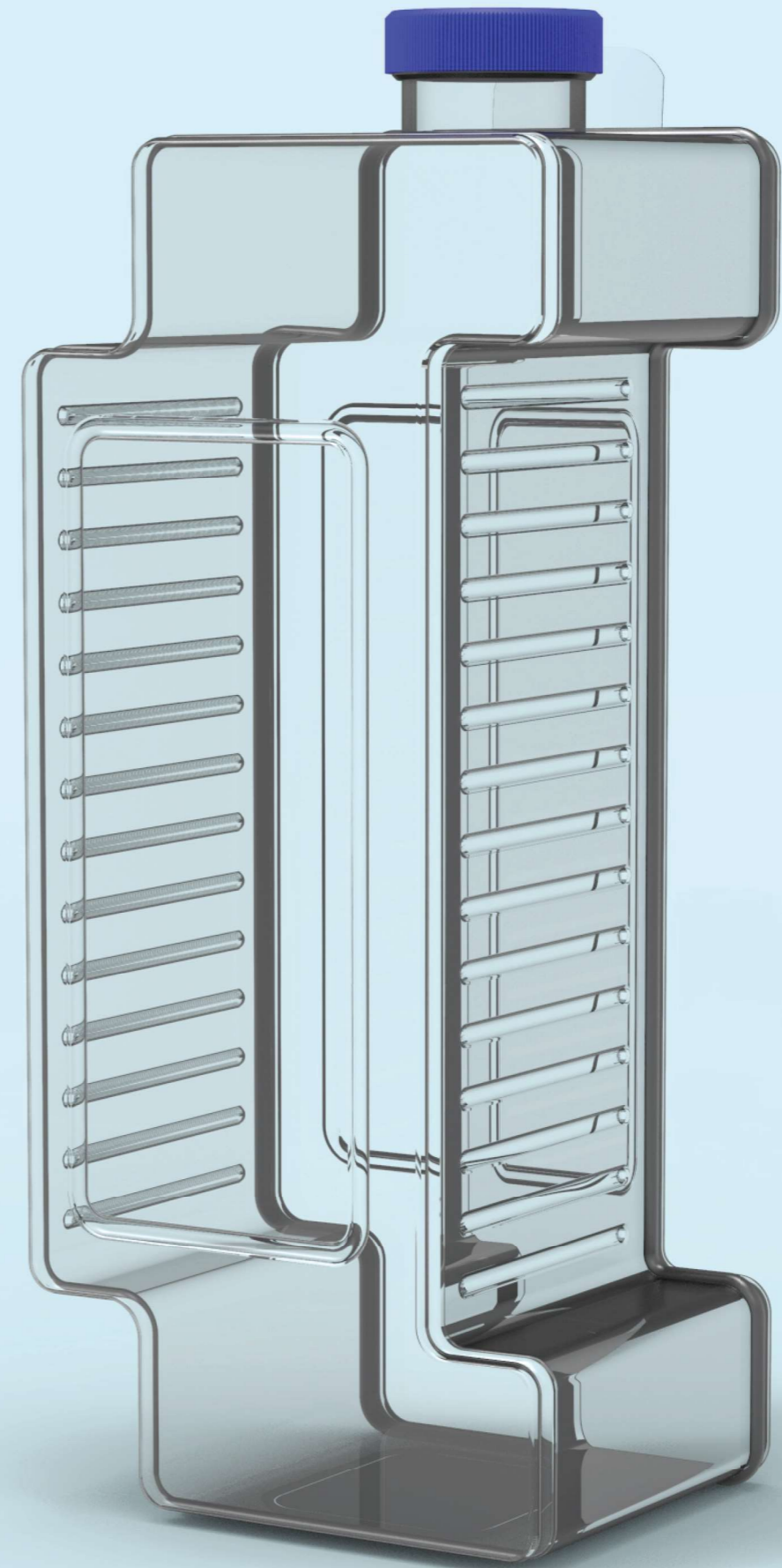


# SAATHI

A multipurpose disposable water bottle

## Team Project:

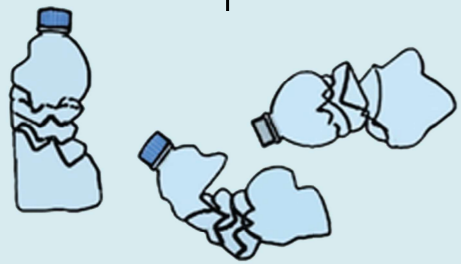
- Aditya Soni
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- Tammanna Goyal



# Story of a plastic bottle



A consumer buys a plastic bottle



The bottle is trashed after being used



The trash consists of many plastic bottles along with other garbage



The bottles along with many other wastes are dumped in rivers which end up in ocean



The plastic waste gets broken down into microplastics which are ingested by sea creatures



Bottles are separated from other wastes and sent to a recycling plant

The bottles are shredded and formed into pellets which are used to make polyester, ropes, etc. or other plastic bottles



Bottles, along with many other wastes are dumped in a landfill



Water gradually fills up the landfills and cause plastics to create leachate which contaminates the soil

# How PET bottles are used



53.5% of people buy plastic bottles while travelling and 48.8% of people dispose it straight after drinking.



Whenever buying a disposable bottle, 68.6% people prefer to buy 1 L bottle.



48.8% of people claim to crush the bottle before disposing while 39.5% of people dispose it without crushing

# Facts about PET



PET stands for *polyethylene terephthalate* and it is extremely stable, tough and inert. Also, it is highly resistant to chemical or biological reaction with other substances.



Although PET is safe to be used repeatedly, it should be thoroughly washed and dried to make sure it's sanitary and free from bacteria.



PET does not contain BPA, phthalates, dioxins, lead, cadmium or endocrine disruptors and hence is considered safe for food, beverage, pharmaceutical and medical applications.



PET is a highly sustainable material as it's fully recyclable. It can be recycled again and again into carpets, clothes, shoes or bottles.

# Alternative uses of PET bottles



Waste PET bottles can also be used to build greenhouses for plants. It is cheaper than a traditional greenhouse, allows rain to penetrate and raises the temperature by 10 degrees.



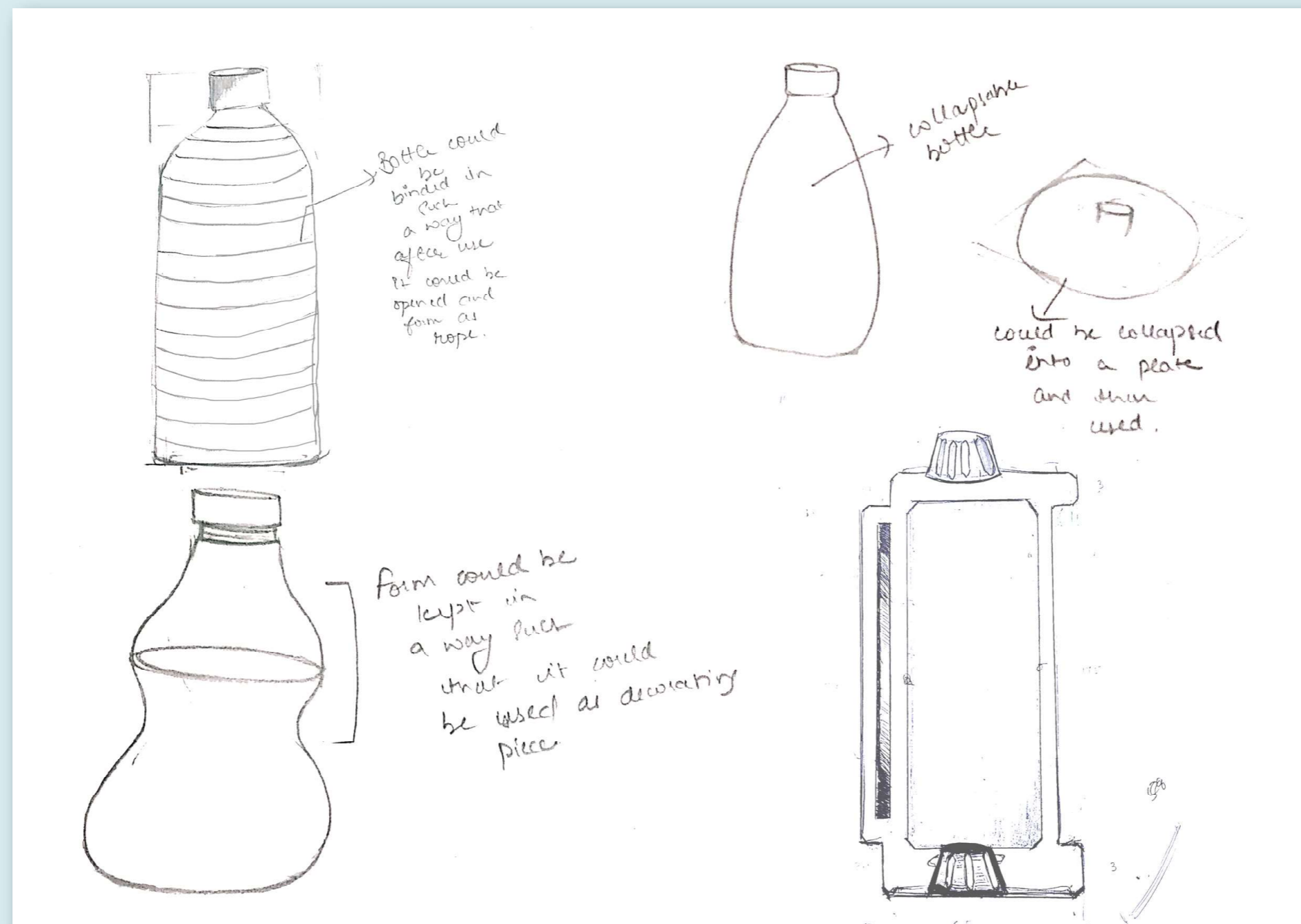
Discarded PET bottles can be used as bricks for construction of homes. In the island of Bocas del Toro in Panama, all the buildings are built using discarded plastic bottles.



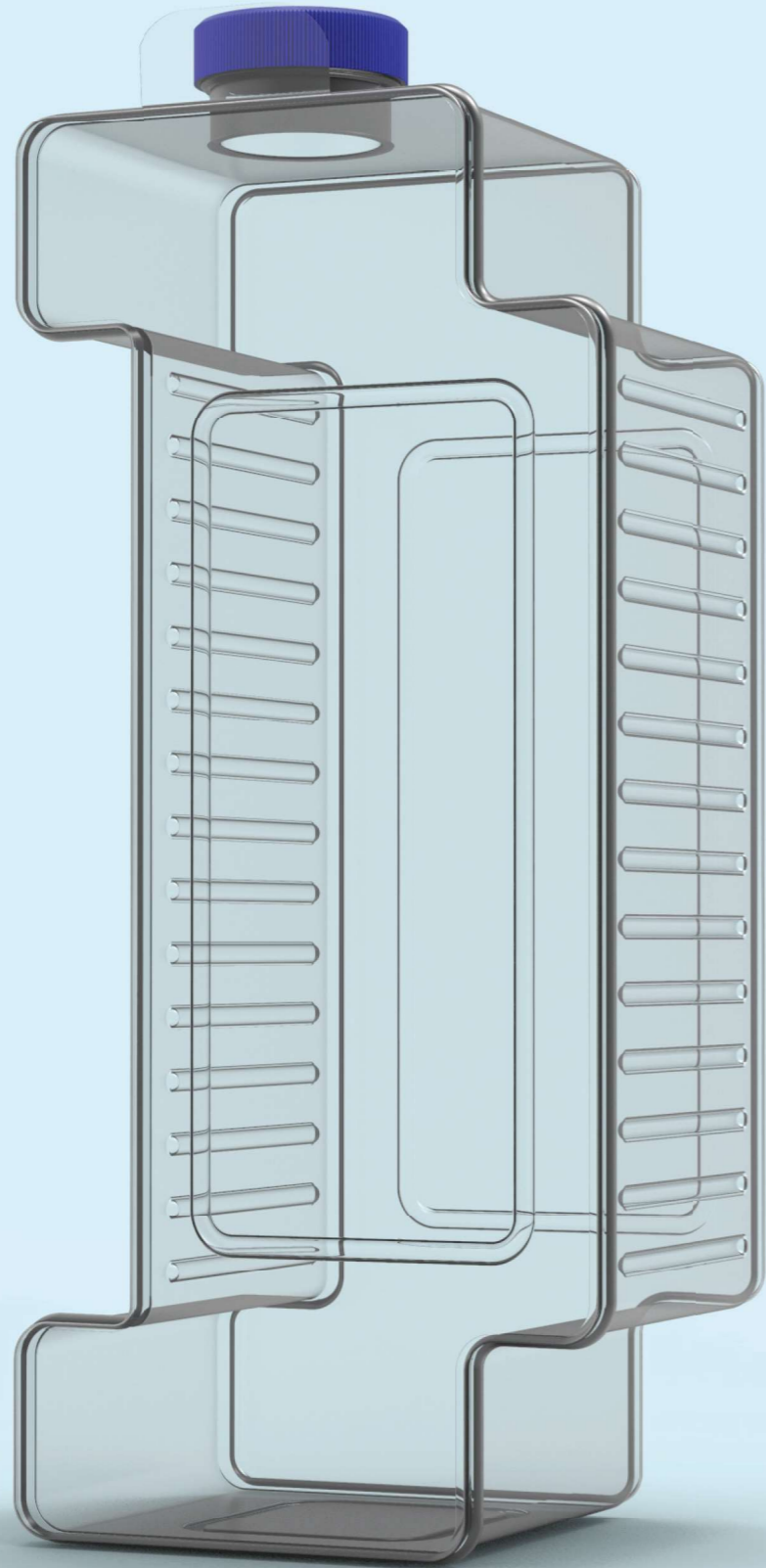
Waste PET mixed with other waste plastics can be used to build roads. This concept was developed by Professor Rajagopalan Vasudevan. Currently it is used in some Indian cities and many other Asian and European countries.

# Insights:

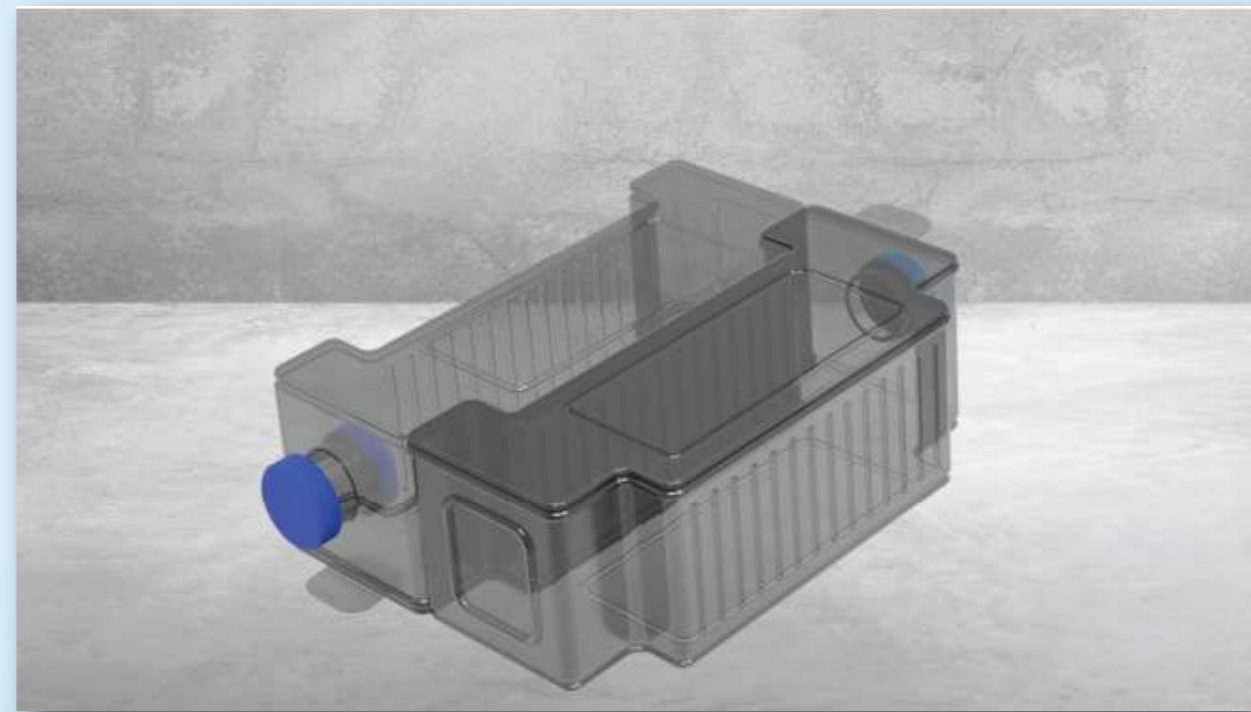
- Single use plastics contribute heavily to the problem of plastic pollution.
- Most bottles are used only once as people don't find them useful enough.
- Bottles that properly disposed are usually the ones that are later recycled.
- While travelling, people usually find it difficult to dispose them off properly.
- To increase the life span of the bottle, the bottle needs to be multipurpose.



# Final Concept



The bottle can be used as a box at home to store grains, pulses, etc or for other purposes as well



For the purpose of being used as bricks for construction, the bottles can be easily interlocked and hence would require lesser material for binding