



# RECYCLING OF PLASTIC WASTE INTO COMPOSITE TILES TO FABRICATE STRUCTURES FOR SOCIETAL USAGE



## ABOUT TECHNOLOGY

- Disposal of Plastic Waste is a **major problem**.
- It is **non-biodegradable** & it mainly consists of plastic bags, bottles etc.
- On burning **1 kg of plastic** releases **3 kilos of CO<sub>2</sub>** contributing to global warming.
- Plastic waste is dumped into **landfills** where they may take **1000 years to degrade**
- This technology provide a solution for **solid waste management** problem and promote **waste-to-usable technology** program
- Main objective of the our technology is to **utilize waste plastic bags & bottles for making tiles** which can be used for **building structures** and rooms for general public and **societal benefits**.

## Single-used Waste MLP packaging



MLP packaging

Single used **Multi-Layered Plastic (MLP)** packaging is another unattended waste that require our immediate attention. CSIR-NPL has developed a technology to **separate the layers of MLP** and convert them to granules that can be used for different applications



Layers separated from MLP

## Process Flow Diagram



Plastic waste

Waste plastic bags + bottles shredded into small pieces



Shredded plastic mixed with fillers & molded into tiles

Paver Tiles

Waste plastic composite tiles used to build toilet structures



Smart toilet structure with solar panel



Floor/Wall Tiles

Technology has been successfully transferred to **SEVEN** industries

## Total Funding requirement (in lakhs)

For production of 5,00,000 tiles

Fixed capital on plant:	Rs. 70.00 lakhs
Working Capital:	Rs. 60.45 lakhs
<b>Total Capital Investment:</b>	<b>Rs. 130.45 lakhs</b>

