



# Innovations for Reducing Plastics Waste for a Cleaner Environment: India

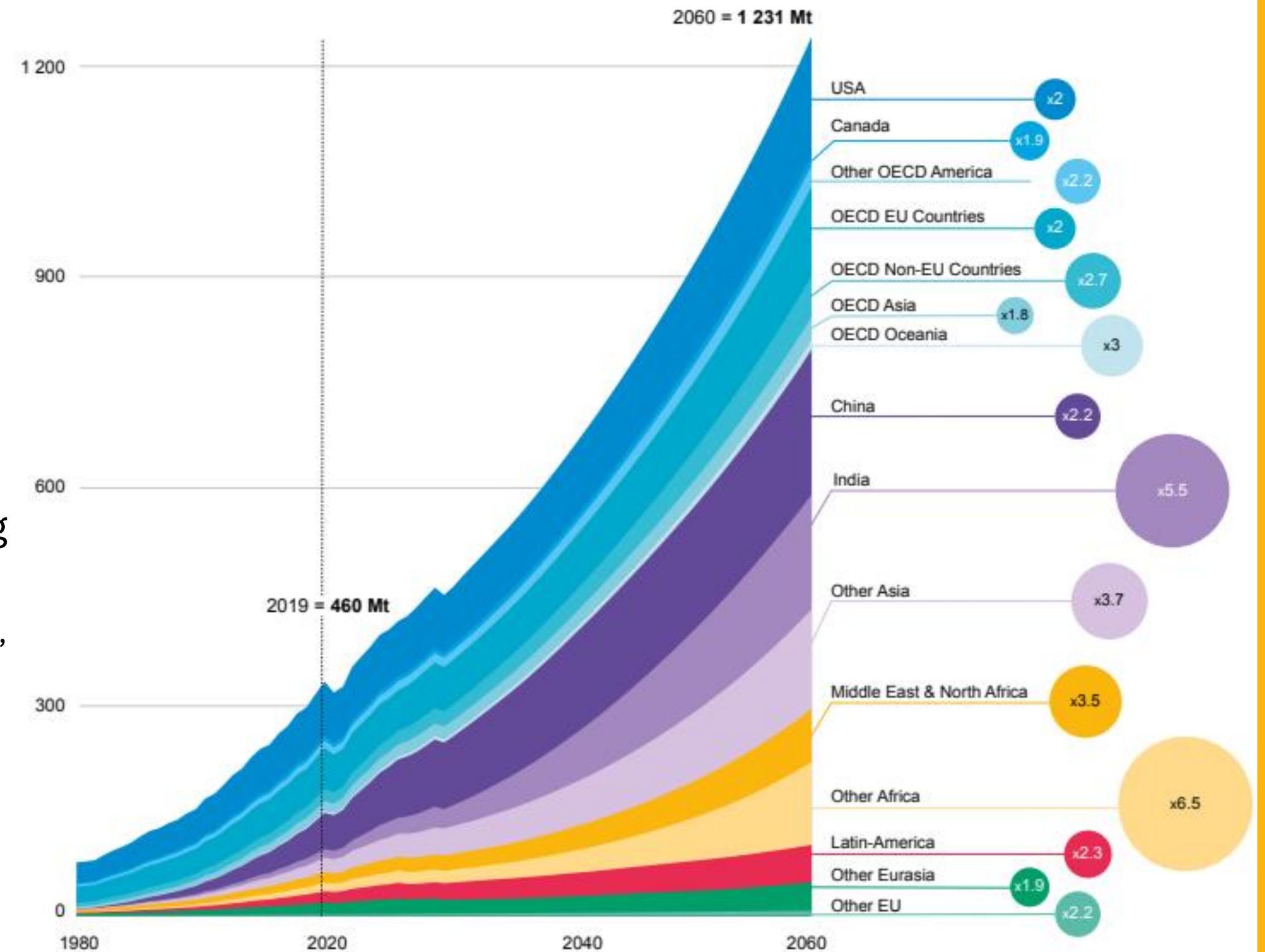
- A Blueprint for Transitioning into a  
Low Carbon Economy

Innovations | Circular Economy | Behaviour Change | Climate  
Action | Just Transition | Low Carbon Economy



# Problem Statement

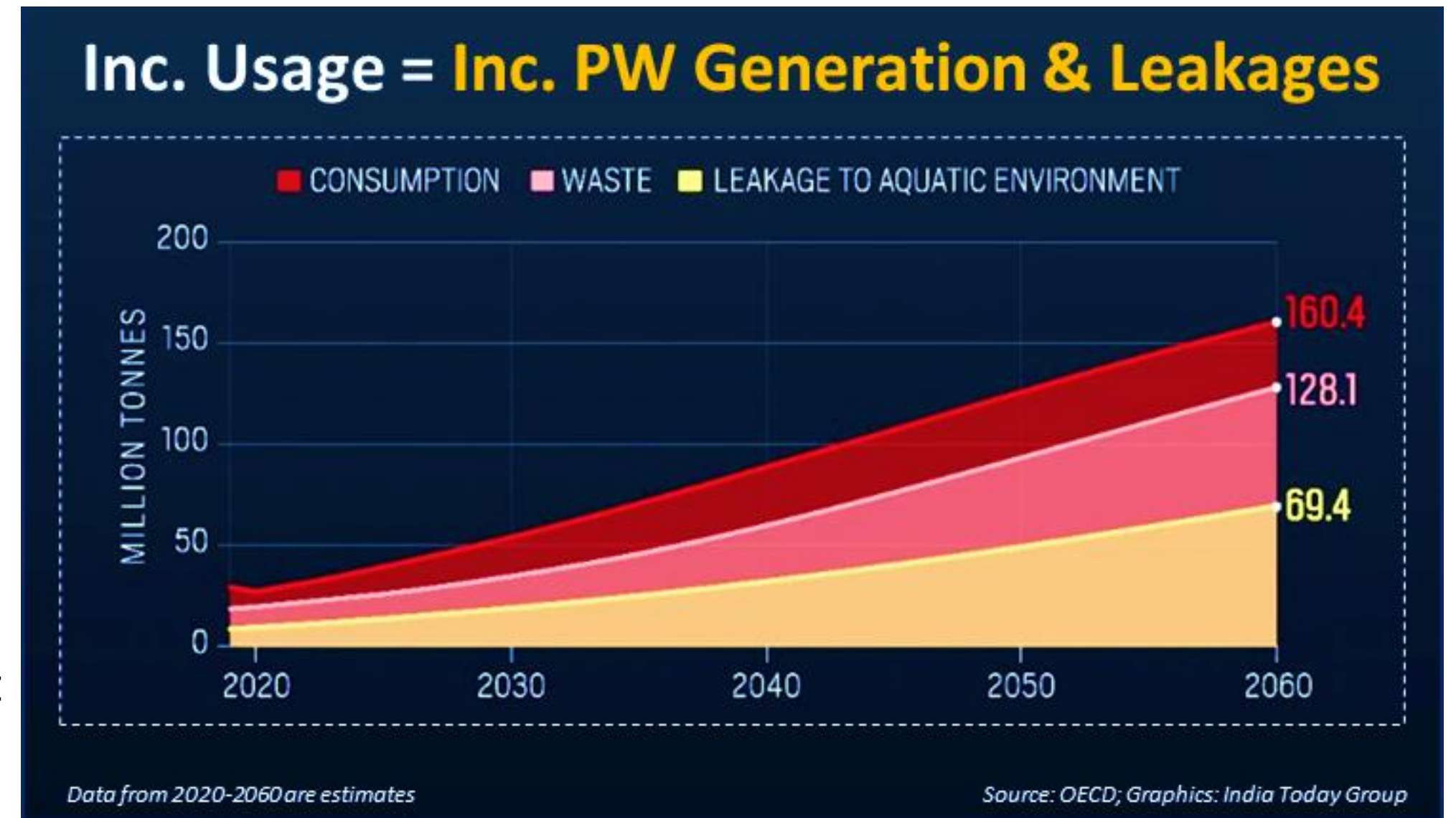
- Plastic use and therefore, plastic waste is rapidly increasing in India. It has doubled in the last five years and is estimated at **9.4Mt per annum in India** (MoH&UA, GoI, 2019).
- Globally, India is the fifth highest generator of plastic waste (CPCB, 2020).
- Single-Use Plastic (SUP), primarily used for packaging (India's packaging industry is the fifth largest in the world), makes up 43% of plastic waste in India (Recykal, 2023).
- Although **India's per-capita plastic use is lower** than international levels, its **development trajectory and high population are expected to make it the largest plastic consumer and waste producer by 2060** (Global Plastics Outlook, OECD, 2022).



Source: Global Plastics Outlook, OECD, 2022

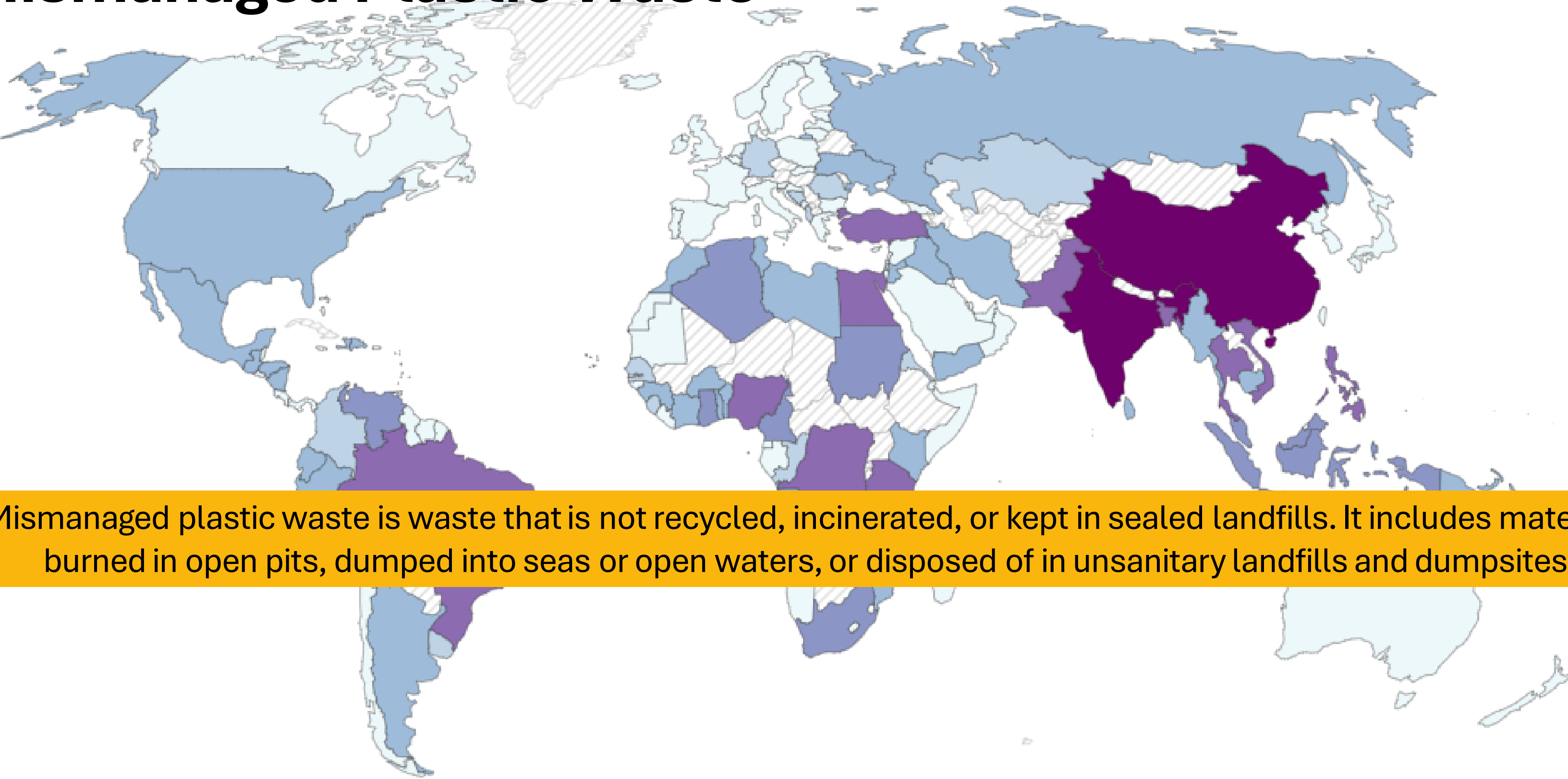
# Problem Statement

- India has strong positive regulations for managing plastic waste – but implementation capacities vary (PWM Rules, 2016; Ban on SUP; EPR guidelines).
- However, India ranks fourth in the Mismatched Waste Index (MWI) with 98.55 per cent of generated waste being mismanaged and fares poorly in the management of plastics waste. (EA, 2023)
- India's large riverine network and coastal belt makes it a prime source of marine litter; projected to be the fifth largest contributor to ocean plastic by 2025 (MoH&UA, GoI, 2022).

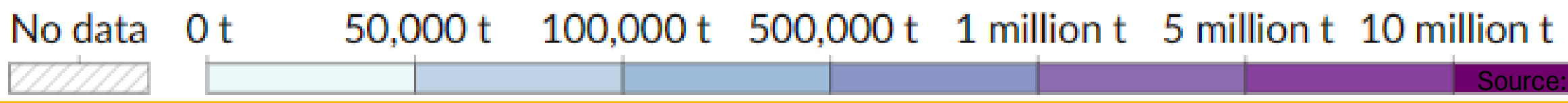


\*The gap in waste management capacity and plastic consumption is called MWI.

# Mismanaged Plastic Waste



Mismanaged plastic waste is waste that is not recycled, incinerated, or kept in sealed landfills. It includes materials burned in open pits, dumped into seas or open waters, or disposed of in unsanitary landfills and dumpsites.



Source: Meijer et al., Our World in Data, 2021





**dump it in landfills**



**burn it**



**throw it away leading to marine pollution**

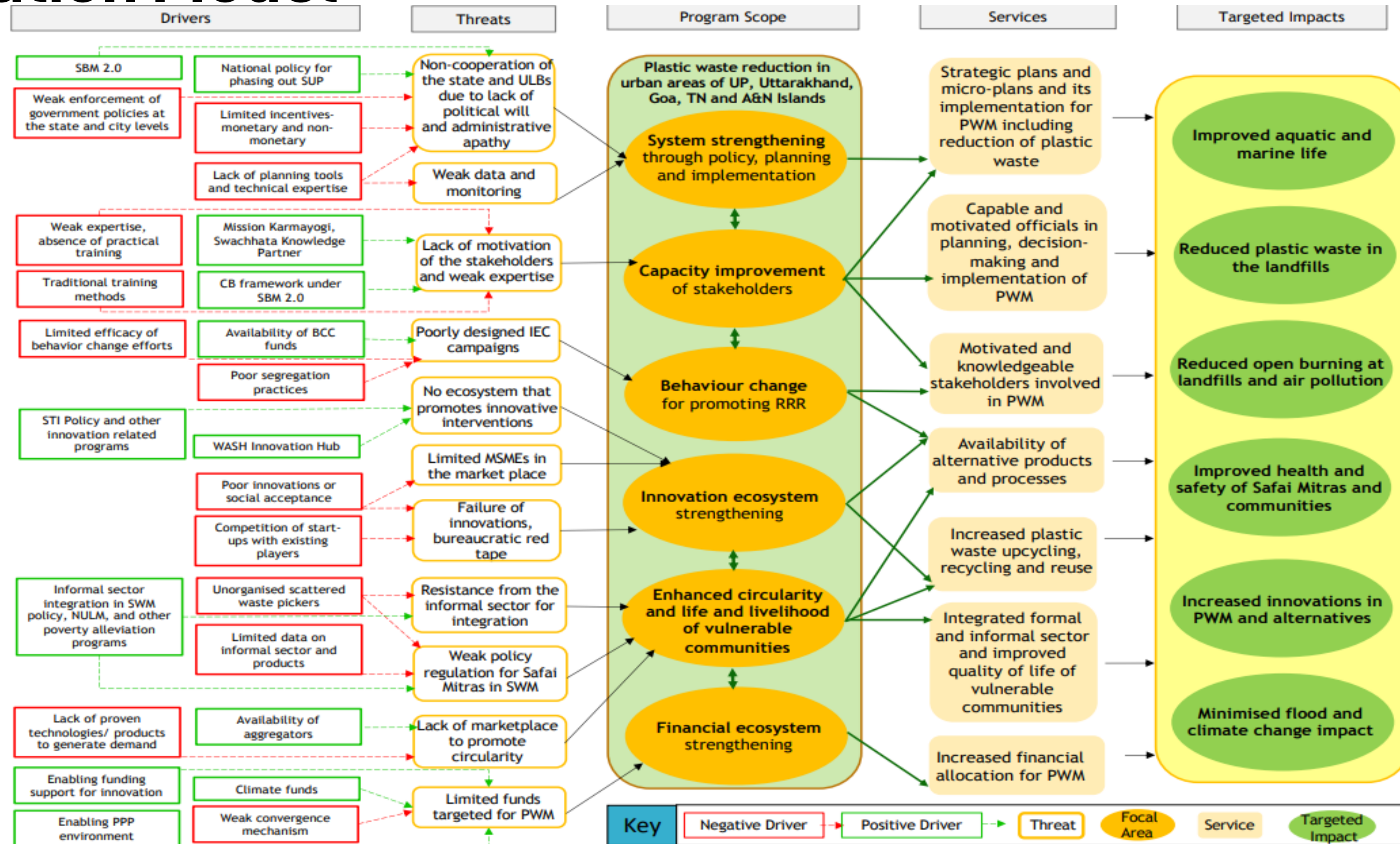


# Gaps in the Existing System

A large part of plastic waste remains mismanaged i.e. uncollected or littered which risks its entry to riverine systems and eventually the ocean due to:

- Mismanagement of plastic waste
- Weak Implementation of Government Policies / Guidelines at State and City Level
- Weak implementation of EPR
- Gaps in Institutional Capacity
- Weak ecosystem for alternatives and innovations
- Inadequate efforts to integrate Informal Waste Collectors and Women
- Limited efficacy of behavior change efforts

# Situation Model



# Theory of Change

**IF** solid waste management policies, planning, infrastructure, and services are improved, focusing on plastic waste management;

**AND IF** the life cycle impact of plastics is addressed by promoting a circular economy and social and behavior change;

**AND IF** an innovation-oriented start-up ecosystem for plastic alternatives and PWM is facilitated;

**THEN** plastic pollution will be reduced, including in the marine environment.





**Goal:**  
*Reduce Plastic Pollution  
(including in the marine environment)  
in India*



# Objective 1

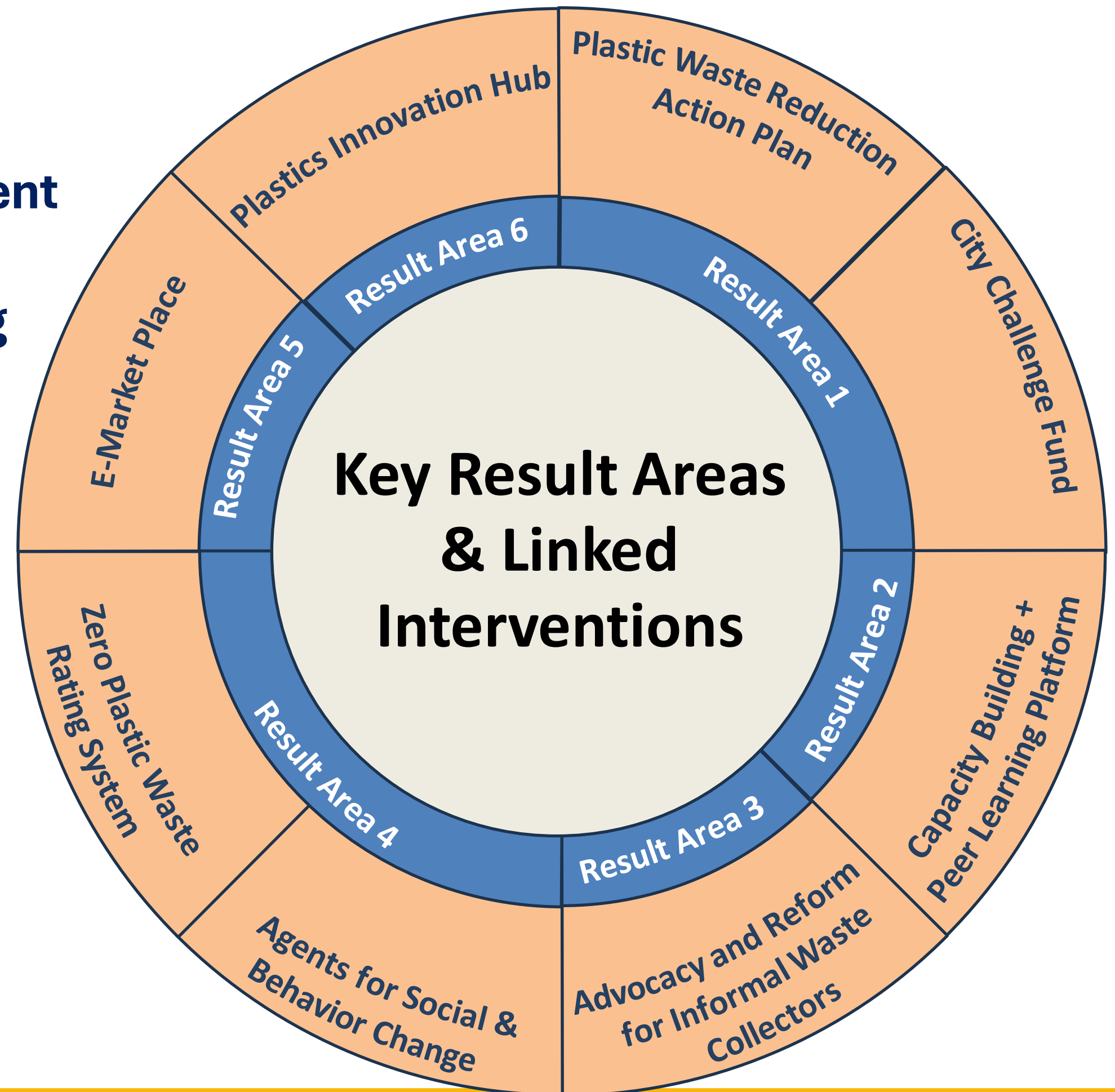
**O.1. Improve Solid Waste Management (SWM) policies, planning, infrastructure, and services focusing on plastic pollution.**

**Result 1 :** Improved PWM through better planning & implementation in alignment with national policies.

**Result 2 :** Enhanced capacities for effective planning, implementation, and monitoring of PWM.

**Result 3 :** Reformed life & livelihood of the informal sector workers in PWM.

**Result 4 :** Reduced PW generation through improved Social and Behavior Change activities.



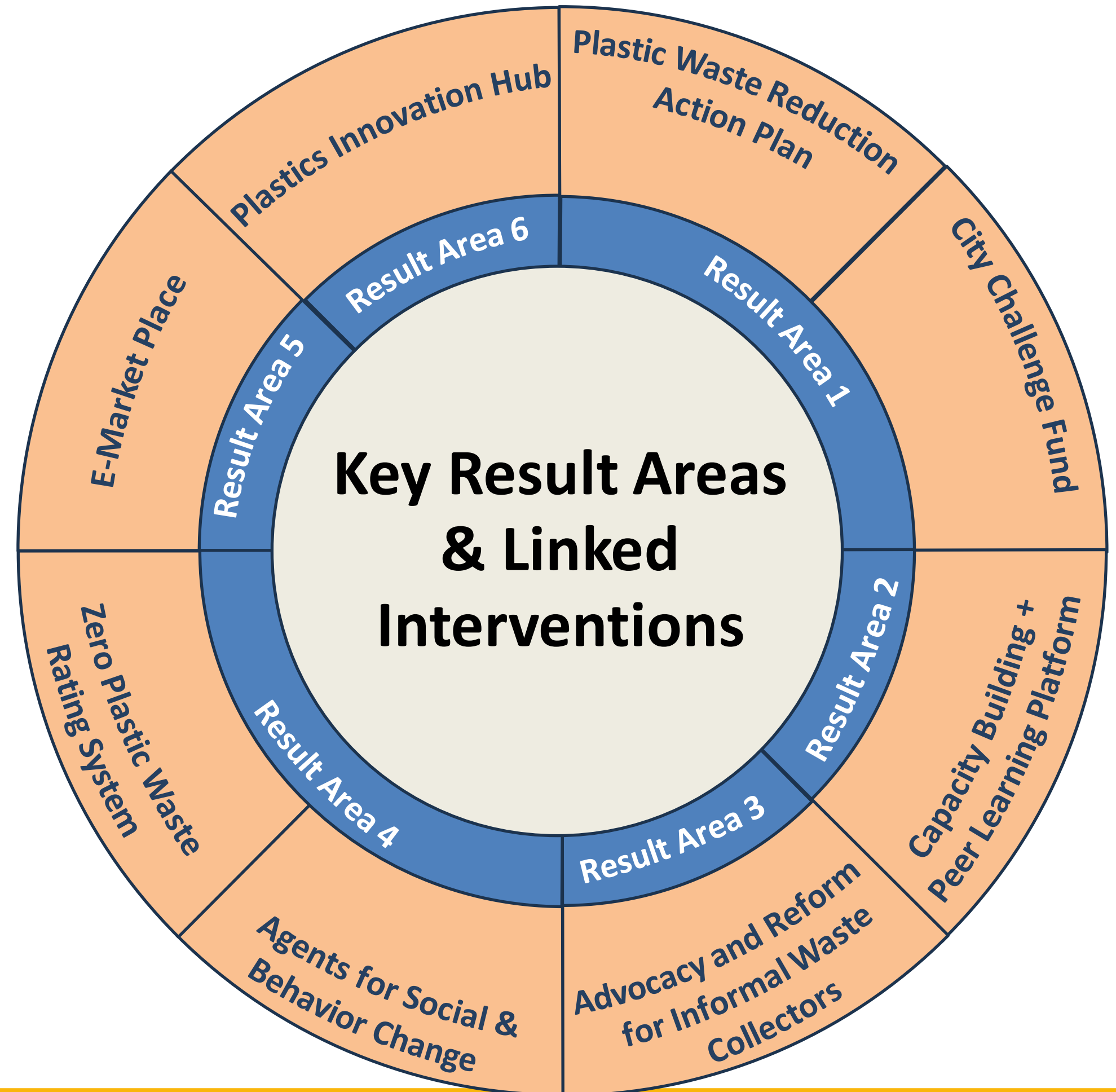


# Objective 2

## O.2. Address lifecycle impact of plastic by promoting a circular economy and an innovation ecosystem

**Result 5 :** Increased circularity through P-3 (People, Private and Public) Platform.

**Result 6 :** Accelerated climate-friendly innovations (esp. re-design packaging) through improved ecosystem for uptake.





# Expected Outcomes

1



**Policy Enablers: Existing policies are leveraged & modified for improved focus on PWM**

SBM 2.0, Swachh Survekshan, SUP Ban, EPR Framework, Climate Change Action Frameworks, Innovative Policies, Mission LIFE, Commitments to G20, Mission Karmayogi

2



**Human Capital: Stakeholders are better capacitated to manage PWM**

Staff of ULBs and State governments, SHG Networks, Informal Workforce, Private Sector & Start-ups, Vibrant R&D & Technologies

3



**Funds: Blended finance leveraged to enhance government funding for replication of inREPLACE innovations for PWM**

Government Programs – SBM 2.0, NULM etc., Ministries – MoEFCC, MoSJE, Private Sector, EPRs, CSRs, Innovation Funds (e.g., Start-Up India, AIM), Impact Investment & Climate Funds



# Thank You.



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