

Marine Pollution



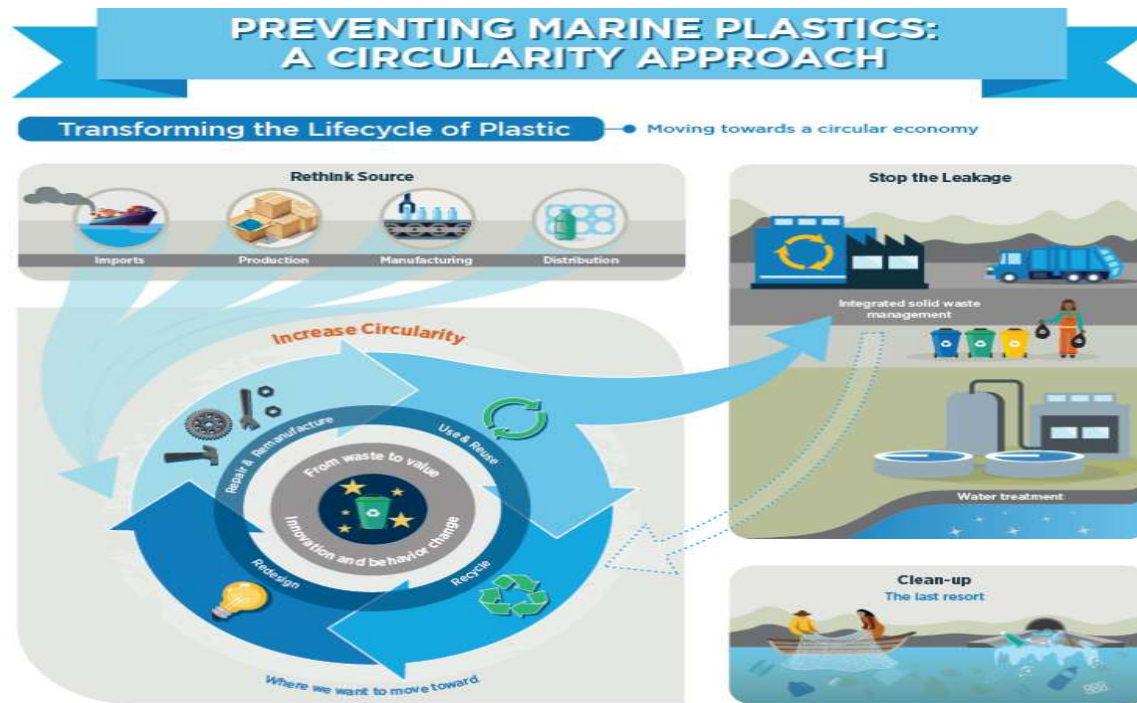
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INTRODUCTION

- ❖ Oceans are vital but face pollution threats like plastic, oil, chemicals, and noise. This causes harm to marine life, habitats, human health, and economies.
- ❖ Management strategies include reducing plastic waste, stricter regulations, coastal zone management, international cooperation, and public awareness.
- ❖ Urgent action through collaborative efforts is crucial for protecting oceans and ensuring sustainability. Water, the elixir of life, is a finite and irreplaceable natural treasure. It quenches the thirst of every living being, nurtures vibrant ecosystems, and fuels the engines of progress.
- ❖ Conserving this liquid gold is paramount for sustaining life, fostering economic growth, and safeguarding our planet's delicate balance.
- ❖ The water quality index value of ground water was 84.46 in rainy season, 77.14 in winter season and 91.22 in summer season.



Mission: To protect and preserve the world's oceans from the detrimental effects of pollution, fostering a sustainable and healthy marine environment for present and future generations.



Vision: A world where the oceans are free from harmful pollutants, marine ecosystems thrive, and the delicate balance of the ocean's resources is maintained for the benefit of all life on Earth.

CAUSES

ENVIRONMENTAL POLLUTION



- ❖ Different type of Industries that are affecting water bodies: Chemical Industries, Manufacturing Industries, Extractive Industries, Metal Industries, Power Generation, Construction Materials.
- ❖ Sewage system.
- ❖ Excessive tourism.
- ❖ Agricultural runoff.
- ❖ Ship pollution: marine debris, ghost nets.
- ❖ Plastic pollution.

ENVIRONMENTAL DEGRADATION



- ❖ Coastal erosion.
- ❖ Challenges faced by ocean waste management system.



CAUSES

ECOSYSTEM AND COMMUNITY IMPACT



- ❖ Effects on Local Community.
- ❖ Degradation and Deforestation of Coastal Ecosystems.
- ❖ Coastal Urbanization.

CLIMATE AND POLLUTION



- ❖ Climate Change Impacts.
- ❖ Invasive Species.
- ❖ Religious Cultural Practices.



REMEDIES

1 Waste Segregation and Processing: Segregating collected ocean waste based on types, Creating homogeneous mixtures of recyclable waste, Combining waste with other compounds for stability and usefulness.

2 Product Manufacturing from Recycled Materials: Reinforcing and using recycled materials in products like furniture, automotive parts, construction materials, and consumer goods for strength and durability.

3 Recycled Plastics and Packaging: Recycling ocean plastics into everyday items, clothing, and construction materials. Creating sustainable packaging solutions from recycled plastics.

7 Electronic Waste Recycling: Recovering valuable metals and components from electronic waste. Refurbishing and reselling functional electronics.

6 Recycling Fishing Gear and Rubber: Using recycled fishing nets and lines for textiles, construction materials, and durable goods. Repurposing rubber tires for construction, playgrounds, and consumer goods.

5 Organic Waste Recycling: Converting organic waste into compost or biofertilizers for agriculture. Producing bioenergy through anaerobic digestion of organic waste.

4 Metal and Glass Recycling: Melting and reusing metals from ocean waste in manufacturing industries, art, and decorative items. Recycling glass for construction, bottles, and artisanal goods.



Sustainable Branding:

Promote products emphasizing sustainability and recycled ocean waste materials.

01.



Certification and Standards:

Get eco-certifications like Ocean Cycle or Global Recycle Standard to assure consumers of environmental benefits.

02.



Collaborations:

Partner with eco-friendly brands, organizations, and influencers for product promotion and endorsements by environmental NGOs.

03.



Storytelling:

Engage consumers by sharing the journey of ocean waste to product, highlighting positive environmental impacts.

04.



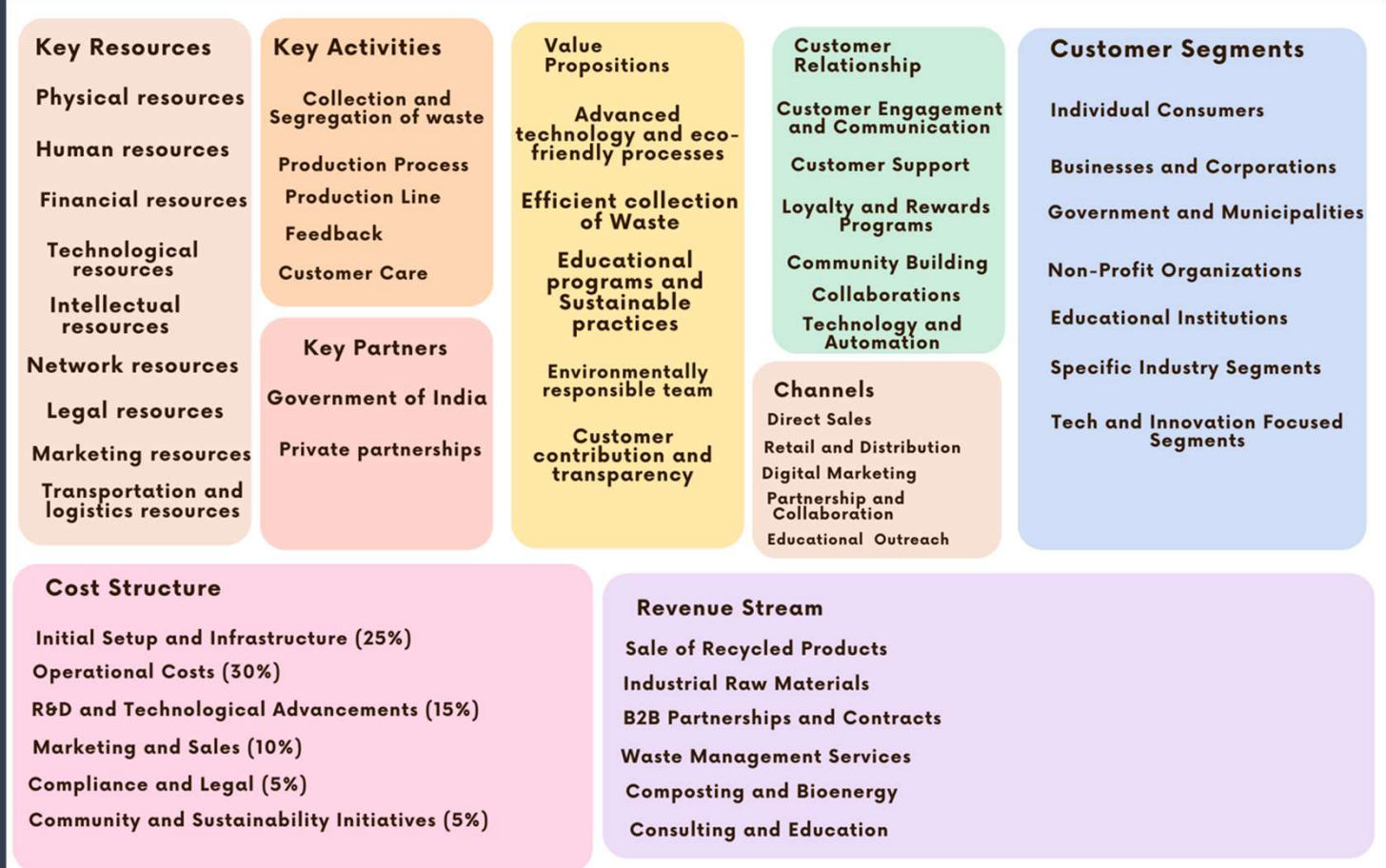
Education and Advocacy:

Inform consumers about ocean pollution and the importance of recycling through advocacy and educational campaigns.

05.



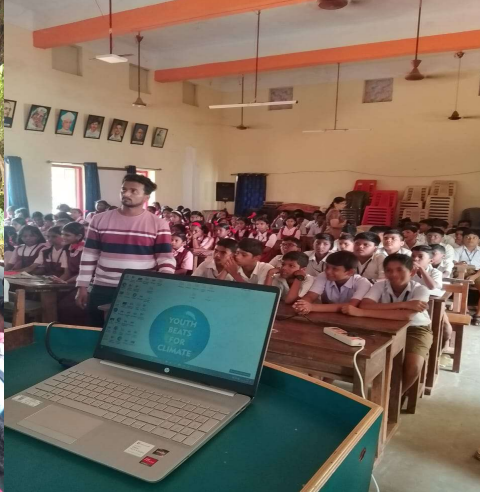
BUSINESS MODEL



Our teams at Udupi & Karwar in Karnataka



Our teams at Goa & Sindhudurg in Maharashtra



Pilot Projects at Udupi and Karwar in Karnataka

- Our teams at Udupi and Karwar in Karnataka, have collected about 8-10 tons plastic waste from the ocean in the last 6 months
- The collected waste was segregated by the Women SHG members and was given to the local recyclers for cleaning and shredding the plastic waste
- Post this exercise, the shredded plastic was sold to the plastic moulding industries by these Women SHG members, who are into making of household articles such as buckets, mugs, flower pots, pipes etc. In this way the local Women SHG members also gets some income from this activities.



Proposed Activities in Udupi, Karnataka

- Awareness programs for fishermen in each fishing villages about the ocean plastics and its effects on the environment and humans
- Providing reverse vending machines (Pet bottle recycling units)
- Hiring of boats for collection of plastic waste in sea (exclusively for collecting plastic at sea)
- Collection bins (2 nos. 20 kg capacity) for each mechanised boat
- Providing beach cleaning machines
- Undertaking fishermen village beach cleaning activities
- Incentives for purchasing damaged nets and plastic waste from the fishermen
- Installation of plastic collection kiosk including structure, weighing scale, bags, 1 ton vehicle and other processing charges
- Installation of trash barriers in rivers (15 ft barriers and 15 ft wire)
- Annual maintenance of trash barriers
- Installation of plastic compressor, after washing for transportation
- Study on effects of micro plastics and macro plastics in fish
- Providing the facilities for converting the plastic waste collected into appropriate toilet parts
- Construction of public toilets out of waste plastics in harbors, beaches and landing centers
- Development of software application and maintenance for monitoring progress of proposed activities
- PMU Setup and maintenance



A photograph of a sea turtle resting on a rocky beach. The turtle is positioned in the lower center of the frame, facing away from the viewer towards the ocean. Its head is turned slightly to the right. The beach is composed of numerous light-colored, smooth, rounded rocks and pebbles. In the background, the ocean waves are breaking, creating white foam and splashing water. The sky is a clear, pale blue. The overall scene is bright and sunny.

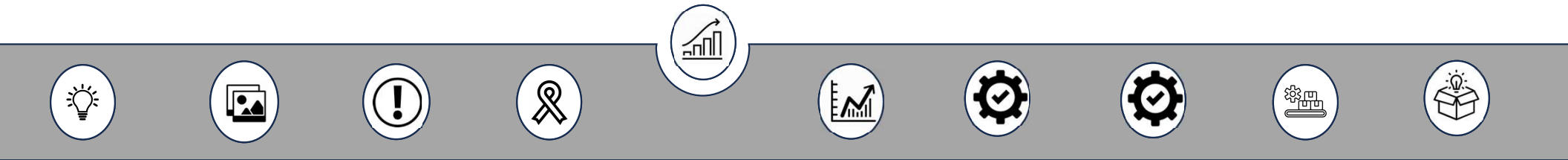
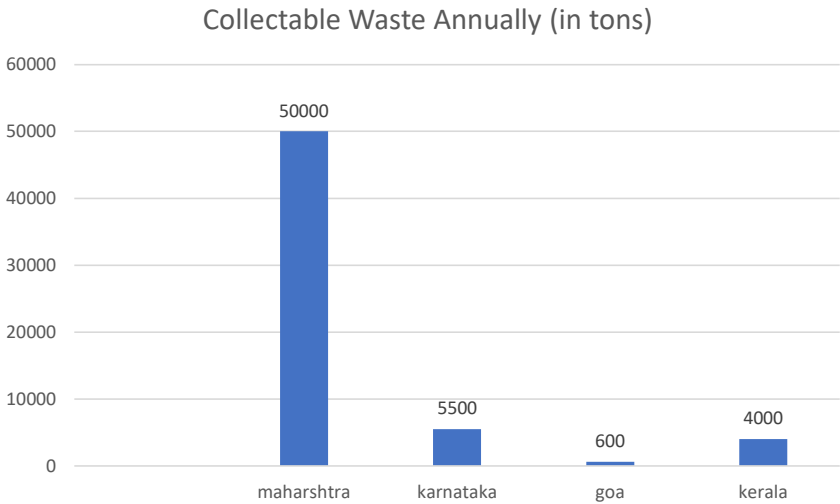
Scope for Intervention

STATISTICAL DATA

Over the past decade, the Indian Ocean has seen a significant rise in pollution, particularly from plastic waste. Here's a summary of the key statistics and trends regarding pollution in the Indian Ocean from 2014 to 2024:

Here's a statistical overview of ocean pollution along India's coastal lines, including various types of pollutants:

Pollutant Type	Statistics	Source
Microplastics	1,00,000 to 1,25,000 microplastic particles per sq km in coastal waters	Studies on marine pollution in India
Oil Spills	Average of 60 oil spill incidents annually	Indian Coast Guard reports
Factory Wastes	5.5 million metric tons of industrial waste annually	Central Pollution Control Board
Noise Pollution	Levels range between 100-130 dB in major ports	World Economic Forum report
Chemicals	High levels of heavy metals (e.g., mercury, lead) in coastal sediments	Environmental Monitoring reports

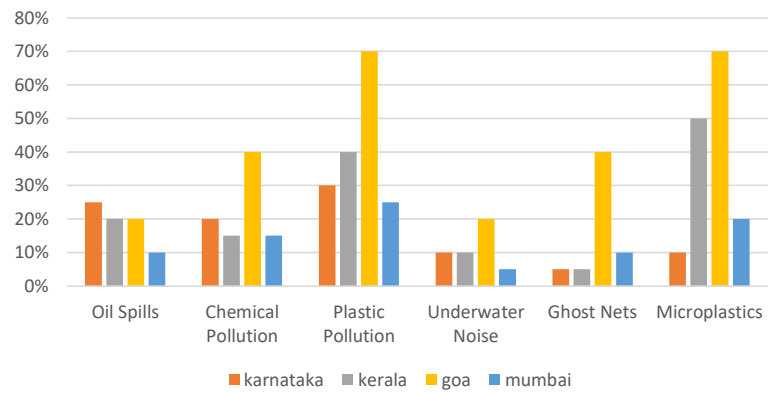


STATISTICAL DATA



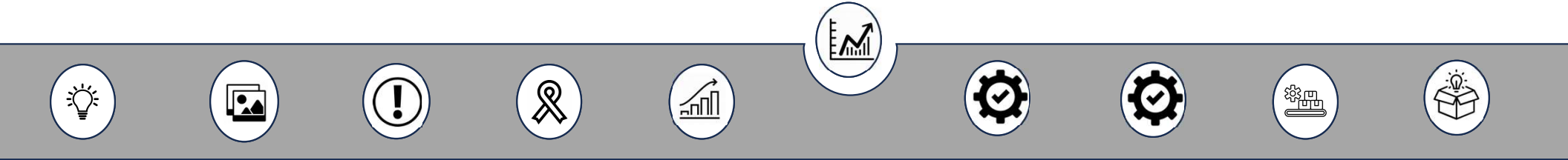
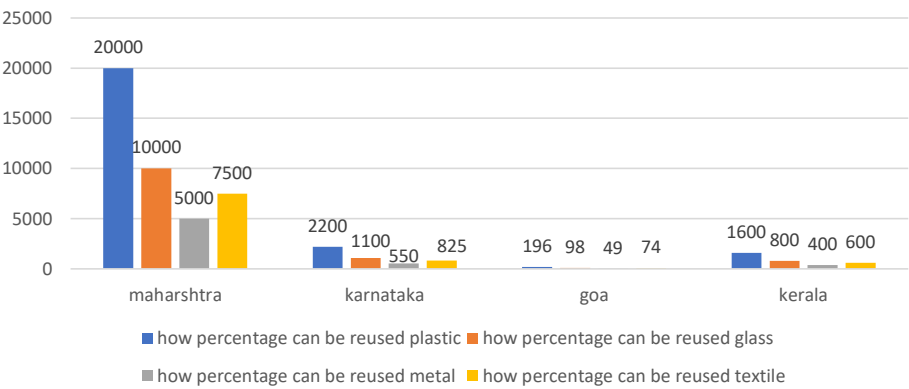
Pollutants	Karnataka	Kerala	Goa	Mumbai
Oil Spills	25%	20%	20%	10%
Chemical Pollution	20%	15%	40%	15%
Plastic Pollution	30%	40%	70%	25%
Underwater Noise	10%	10%	20%	5%
Ghost Nets	5%	5%	40%	10%
Microplastics	10%	50%	70%	20%

Pollution Rate (in %) of West coast



State	Quantity of waste collectable (in tons)	Quantity which can be reused (in tons)			
		plastic	glass	metal	textile
Maharashtra	50000	20000	10000	5000	7500
Karnataka	5500	2200	1100	550	825
Goa	600	196	98	49	74
Kerala	4000	1600	800	400	600

reusable waste(in tons)

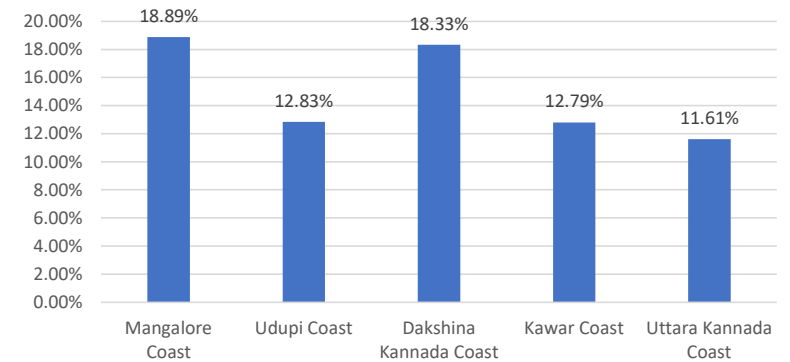


STATISTICAL DATA from KARNATAKA

Pollution contribution rate from each coast in Karnataka (IN %)

COASTAL AREA	AVERAGE POLLUTION RATE OUT OF 5500 tons OF WASTE.
Mangalore Coast	18.89%
Udupi Coast	12.83%
Dakshina Kannada Coast	18.33%
Kawar Coast	12.79%
Uttara Kannada Coast	11.61%
TOTAL	74.45%

Pollution contribution rate from each coast in Karnataka (IN %) AVERAGE POLLUTION RATE



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THANK YOU

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