

**DESIGN IMPACT >>>>
>>>>>>>>>>>> MOVEMENT**

A Social
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RETHINKING ACCESSIBILITY IN BEACHES



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THEME: COASTAL WASTE MGMT & MARINE PLASTICS



RETHINKING ACCESSIBILITY IN BEACHES

STAKEHOLDER

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Core Issue

Currently, beaches lack affordable, inclusive equipment to allow physically disabled persons to safely enjoy the water. The amphibian chairs now in use are imported from France, operate manually, and cost around ₹300,000 per unit. This leads to limited number of units available, restricting accessibility, reliance on imported parts and expertise for maintenance and reduced inclusivity in public beach facilities.

Constraints

- High procurement cost (₹300,000 per unit)
- Manual operation requiring staff assistance
- Limited number of units available
- Maintenance difficulties due to imported parts and lack of local expertise
- Reduced inclusivity in beach experiences

Context

Accessible beaches are essential for inclusive tourism and community well-being. However, the current system's high costs and operational limitations restrict opportunities for physically disabled individuals to enjoy beach environments. Without affordable and locally sourced solutions, accessibility remains inadequate, impacting both tourism potential and social equity.

Groundwork to be considered

- How can locally manufactured amphibian chairs be developed to reduce costs without compromising quality? Create designs that are lightweight, durable, and easy to operate
- What design features will make the chairs lightweight, durable, and easy to operate for diverse users?
- How will safety and comfort standards be ensured for people using the chairs in water environments?
- What strategies can promote accessible tourism while integrating the chairs into sustainable beach management practices?



Existing Systems

- Manual amphibian chairs imported from France, costing around ₹300,000 per unit.
- Operation requires staff assistance for moving chairs in and out of water.
- Limited availability, only a small number of chairs at select beaches (such as the Blue Flag Beach - Tannirbhavi)

Resources

- What Are Amphibious (Beach) Chairs?
 - These are specialized wheelchairs or seating aids purpose-built to enable safe and comfortable access to sand, shallow water, and shoreline—ideal for creating inclusive beach experiences.

Model / Source	Price (₹)	Usability	Challenges
Sand & Sea Beach Wheelchair (USA)	1.5–2 lakh	Large balloon tires for sand; can enter shallow water; easy to push	Heavy; needs 2 people on slopes; not foldable
Hippocampe All-Terrain Wheelchair (France)	3–3.5 lakh	Works on sand, snow, shallow water; lightweight aluminum frame	Imported (high shipping); limited service centers in India
WaterWheels Floating Beach Chair (USA)	3–4 lakh	Floats in water with pontoons; suitable for water recreation	Bulky storage; not for rough waves
Sand Rider Beach Wheelchair (Australia)	2.5–3 lakh	Easy maneuverability on soft sand; rust-proof frame	Requires annual maintenance; spare parts costly in India
Local Custom Fabricated Models (India)	60,000–1 lakh	Adapted to local terrain; easy repairs; cost-effective	May lack ergonomic comfort; corrosion resistance may be lower