

# Revitalizing Goa's Heritage Landscapes: A Multidisciplinary Approach

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**Abstract:** *The state of Goa, located on the western coast of India, stands as an exceptional case of cultural hybridity and architectural continuity amidst post-colonial transformation. With a deep historical legacy shaped by the Kadamba dynasty and over 450 years of Portuguese rule, its heritage landscape is rich in urban typologies, sacred spaces, colonial-era architecture, and living traditions. However, post-liberation planning and unregulated tourism growth have caused morphological disruptions, heritage degradation, and socio-spatial inequality. This paper examines Goa's cultural and architectural landscapes through an interdisciplinary framework that integrates architectural conservation, urban design, participatory governance, adaptive reuse, digital heritage, and tourism planning. With the aid of primary case studies—Fontainhas in Panaji, Old Goa, Chandor, and heritage temples in Ponda—and analytical tools such as morphological analysis, urban heat mapping, and heritage tourism flows, the study reveals the tensions between growth and preservation. Supported by policy reviews, field observations, GIS data, and tourism statistics from 2010–2023, the paper identifies a need for reclassification of zoning schemes, digitization of heritage assets, legal and financial support for adaptive reuse, and creation of cultural landscape management frameworks. It proposes a replicable model where spatial identity and cultural sustainability can serve as infrastructural components of climate-resilient and equitable planning.*

**Keywords:** Cultural landscapes, heritage architecture, urban morphology, adaptive reuse, tourism planning, spatial justice, Goa, gentrification, digital heritage, urban design, participatory conservation

## 1. Introduction: Heritage in Transition

Goa's post-liberation planning trajectory presents a paradox. On one hand, it boasts a unique material and intangible heritage rooted in sacred geography, Indo-Portuguese architecture, traditional water systems, and village community layouts. On the other, the state has undergone rapid land-use transformation, urban sprawl, and increasing tourism-induced stress since 1961. Between 1961 and 2021, Goa's urban population increased from 30% to 62%, and the built-up area grew by 131% between 1990 and 2020 (Source: Goa State Planning Atlas, 2021). These changes have led to the commodification of heritage spaces, loss of urban identity, and fragmentation of cultural continuity.

This paper uses a thematic lens to investigate the implications of these changes. It focuses on:

- **Architecture:** Adaptive reuse, conservation technologies, and typological analysis
- **Urban Design:** Morphology, placemaking, and public realm transitions
- **Urban and Regional Planning:** Legislation, zoning, tourism impact, and spatial equity.

## 2. Cultural Landscapes and Urban Morphology of Goa

### 2.1 Defining Cultural Landscapes in Goa

According to UNESCO (2008), cultural landscapes are "combined works of nature and man." In Goa, they include:

- **Sacred landscapes:** Temples like Mangueshi and Shantadurga; church precincts like Se Cathedral and Basilica of Bom Jesus.
- **Agrarian landscapes:** *Khazan* lands (community-managed estuarine fields).

- **Urban villages:** Aldona, Saligao, Chandor—known for their traditional residential forms, water tanks, and sacred groves.
- **Colonial urban forms:** Fontainhas (Panaji), São Tomé, and Velha Goa.

### 2.2 Morphological Typologies and Patterns

The urban morphology of Goan towns reveals:

- **Baroque axiality** in Old Goa.
- **Gridiron plans** in Panaji (modeled after Lisbon's Baixa).
- **Radial layouts** in Margao (centering around the Church of the Holy Spirit).
- **Organic village morphologies** like Loutolim, marked by narrow alleys and central *maands*.

## 3. Case Studies in Architectural and Cultural Revitalization

### 3.1 Fontainhas: Urban Conservation with Gentrification Pressures

- Over **65% of buildings** date back to the 18th and 19th centuries (INTACH, 2022)
- Heritage homes with *balcões* and *manger tiles* adapted as art galleries, cafés, and homestays.
- Only **12% of buildings** have formal conservation approvals (Goa TCP, 2023)
- A **30% rise in real estate prices** between 2015 and 2023 led to displacement of old residents.

**Key Challenge:** No designated TDR (Transfer of Development Rights) or financial assistance for conservation under the TCP Act.

### 3.2 Chandor: Forgotten Capital and Untapped Adaptive Reuse

- Braganza House: 17th-century Indo-Portuguese mansion with Rococo interiors
- Occupied by descendants, but partially dilapidated due to maintenance costs (~₹20 lakh/year)
- No formal conservation plan; lacks legal Grade I protection.

### 3.3 Old Goa: UNESCO Heritage Under Strain

- Houses seven monumental churches; Basilica of Bom Jesus alone receives **over 1 million visitors annually**
- Unregulated construction in adjoining areas (2021 protests)
- Encroachment cases increased by **38% from 2016 to 2022** (Goa Heritage Society).

### 3.4 Ponda Temples: Sacred Landscape at Risk

- Temples like Mangueshi and Shanta Durga are surrounded by unregulated commercial activity.
- Water tanks are partially encroached; rituals now restricted to inner sanctums
- These precincts are not notified as “Cultural Landscapes” despite having continuous religious use since the 1500s.

## 4. Heritage and Tourism: Economic Growth vs Cultural Depletion

### 4.1 Statistical Overview

- **Tourist footfall in Goa (2022–2023):** 7.7 million (of which 38% visited heritage zones)
- **International tourists:** 1.2 million; primary draw: architecture, cuisine, beaches
- **Tourism’s contribution to Goa’s GDP:** 16.8% (Goa Tourism Report, 2023)
- Heritage zones reported **30–40% increase in Airbnb rentals** between 2018 and 2022 (AirDNA, 2023)

### 4.2 Impacts

Over-tourism has led to:

- Waste generation increase: 410 tonnes/day in 2011 → 640 tonnes/day in 2022 (Goa Pollution Control Board)
- Congestion around protected sites (e.g., 2 km traffic jams during December feasts in Old Goa)
- Alteration of sacred rituals due to crowding and loss of sanctity.

## 5. Planning Legislation and Institutional Gaps

- **Town and Country Planning Act (1974):** No heritage zoning or performance-based planning.
- **Goa Ancient Monuments Act (1978):** Applies to less than **7% of the built heritage inventory**.
- **No operational framework for adaptive reuse** despite successful precedents.

### Smart Cities Mission (Panaji):

- ₹986 crore allocated; only **17% allocated to cultural infrastructure**.
- Rua de Ourem waterfront redesigned; positive example of heritage-sensitive urban design.

## 6. Adaptive Reuse and Digital Conservation

### 6.1 Adaptive Reuse Examples

- **Panjim Inn:** First heritage hotel in Fontainhas; restored in 1980s; now generates ~₹2 crore/year in tourism revenue.
- **Reis Magos Fort:** Restored in 2013; now a cultural museum with average footfall of **45,000 annually**.
- **Goa Chitra Museum (Benaulim):** Privately initiated; adaptive reuse of traditional homes; over **4000 ethnographic objects**.

### 6.2 Digitization and GIS Mapping

- INTACH has digitally mapped **2,100 heritage structures**.
- Drone-based surveys initiated in 2022 for Old Goa.
- State lacks a centralized **digital heritage dashboard**.

## 7. Urban Design and Public Realm Interventions

### 7.1 Space and Place Studies

- *Maands, balcões*, and water bodies are being lost due to commercial zoning and highway expansion.
- Margao’s Garden Circle lost 14% of public space in 10 years due to road widening (TCP Survey, 2022).

### 7.2 Recommendations for Design

- Use traditional built forms (e.g., *sopo*, *mandap*) in new public buildings.
- Introduce Urban Design Guidelines in OD Plans for all notified heritage precincts
- Promote heritage-led placemaking with public art, memory walks, and storytelling spaces.

## 8. Multidisciplinary Recommendations

- 1) **Amend Planning Laws** to create Heritage Zones and Cultural Landscape Categories.
- 2) **Adopt Performance-Based Zoning:** Evaluate proposals on ecological, thermal, and heritage metrics.
- 3) **Create a Goa State Heritage and Conservation Authority** with legal, technical, and financial mandate.
- 4) **Use Digital Platforms:** Open heritage data for researchers, tourists, planners.
- 5) **Fund Adaptive Reuse** via PPP models, conservation grants, and tax rebates.
- 6) **Capacity Building:** Train conservation architects, digital mappers, local masons.

## 9. Conclusion

Heritage in Goa is not merely about aesthetics or nostalgia—it is a living system that holds ecological, spiritual, economic,

and social meaning. As Goa negotiates a 21st-century identity amid climate change, urbanization, and global tourism, its cultural landscapes must be repositioned from the periphery to the core of planning frameworks.

A multidisciplinary approach—grounded in architecture, design, planning, technology, and community participation—is essential to create resilient, inclusive, and culturally rooted urban futures.

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