Urban Design

KALABURAGI, KARNATAKA

ABSTRACT

The urban core of Kalaburagi, Karnataka, is a rich tapestry of historical, cultural, and natural assets—including the iconic Kalaburagi Fort, its surrounding moat and lake, the revered Sharanbasveshwar Temple, the historic Brahmapur residential area, and the centrally located public garden. This research investigates the potential of heritage-driven urban design to revitalize this core area while preserving its identity. Through spatial analysis, stakeholder engagement, and contextual design interventions, the study aims to develop an integrated urban design framework that balances conservation with contemporary needs. Key objectives include improving connectivity between heritage sites, enhancing public open spaces, and promoting cultural tourism while ensuring the inclusivity and sustainability of the local urban fabric. The research offers strategic insights into place-based urban regeneration, with Kalaburagi serving as a model for secondary cities seeking to align heritage conservation with modern urban growth.
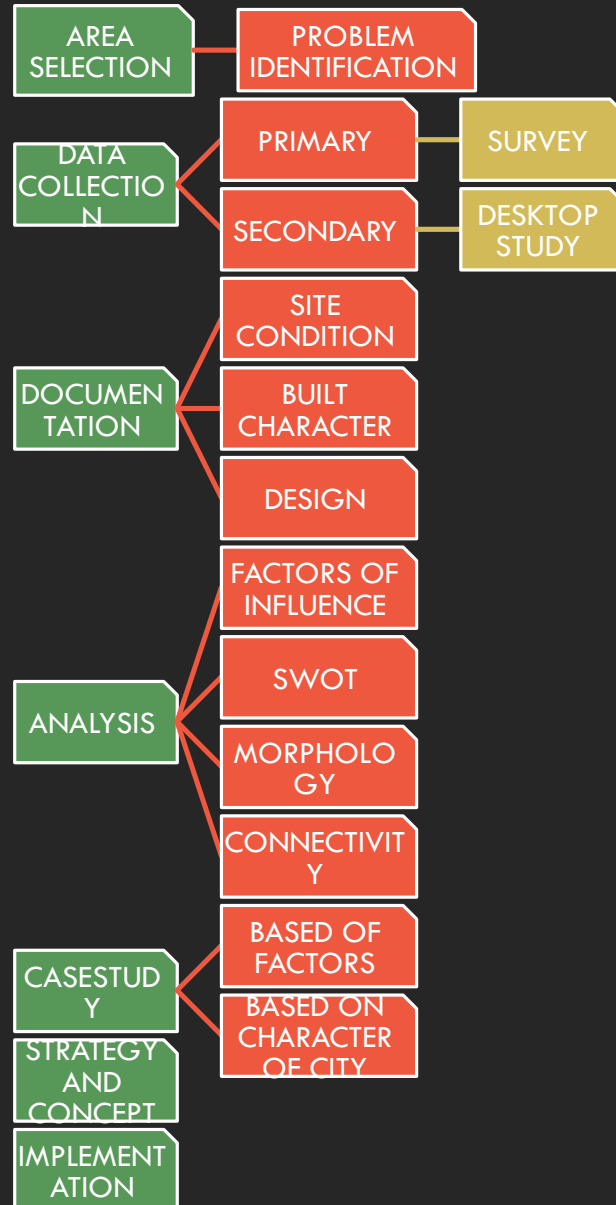
AIM, OBJECTIVES, RESEARCH QUESTION

AIM: To develop a context-sensitive urban design framework for the revitalization of Kalaburagi's historic core by integrating heritage, open spaces, and community-oriented planning.

OBJECTIVES:

1. To study and document the existing urban fabric of Kalaburagi's core, including the fort, moat, lake, Sharanbasveshwar Temple, Brahmapur residential area, and public garden.

2. To analyze the built character, spatial morphology, and connectivity of the historic core.

3. To identify key challenges and opportunities for urban regeneration through primary and secondary research.

4. To develop design strategies that integrate cultural heritage, sustainable practices, and public engagement.

5. To propose an implementable urban design concept that enhances livability while preserving the historic identity.

RESEARCH QUESTION: How can urban design interventions in Kalaburagi's historic core enhance cultural identity, connectivity, and public space utility while respecting its traditional urban fabric?

METHODOLOGY

AREA SELECTION → PROBLEM IDENTIFICATION

DATA COLLECTION
- PRIMARY → SURVEY
- SECONDARY → DESKTOP STUDY

DOCUMENTATION
- SITE CONDITION
- BUILT CHARACTER
- DESIGN

ANALYSIS
- FACTORS OF INFLUENCE
- SWOT
- MORPHOLOGY
- CONNECTIVITY

CASESTUDY
- BASED OF FACTORS
- BASED ON CHARACTER OF CITY

STRATEGY AND CONCEPT

IMPLEMENTATION

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1. AREA SELECTION

1. Define clear boundaries (use GIS for accuracy).
2. Justify area selection with historical and cultural relevance.
3. Overlay zoning maps, land use, and heritage listings.

2. CONTEXTUAL BACKGROUND STUDY

1. Historical Evolution: Chronological mapping of city growth.
2. Cultural Mapping: Festivities, rituals, community hubs, sacred routes.
3. Governance Structure: Municipal jurisdiction, development authorities, heritage bodies.

3. STAKEHOLDER MAPPING & ENGAGEMENT

1. Identify stakeholders: Local residents, temple trusts, municipal officers, historians, business owners.
2. Conduct interviews/focus groups: Understand local needs, aspirations, and resistance points.
3. Community participation techniques: Visual preference surveys, participatory mapping.

1. DATA COLLECTION

1. Primary Data
   1. On-site mapping (manual/GIS-based)Land use and activity mapping (morning, afternoon, night)
   2. Behavioral patterns: gathering points, pedestrian flows, informal activities
   3. Noise, pollution, lighting, and safety mapping.
2. Secondary Data
   1. Master plans, CDPs, heritage site reports
   2. Census data, housing typologies
   3. Previous studies, academic articles

2. DOCUMENTATION & INVENTORY

1. Heritage Inventory: Typology, material, condition, ownership, legal status.
2. Mobility Inventory: Roads, NMT networks, public transport stops.
3. Infrastructure Audit: Water supply, drainage, waste management, street furniture.

3. ANALYSIS

1. A. Spatial Analysis
2. Morphology (block sizes, plot ratios)Edge conditions (moat, lake, walls)Visibility & connectivity (visual corridors, landmarking)
3. Social & Economic Analysis
4. Land ownership patterns
5. Gentrification risks
6. Existing and potential economic drivers (temple tourism, local businesses)
7. Environmental Analysis
8. Natural drainage patterns, urban heat islands
9. Green-blue infrastructure mapping (moat, lake, gardens)Microclimate assessment
10. Policy & Regulatory Review
11. Heritage policies, zoning norms, CRZ (if applicable), Smart City Mission links

METHODOLOGY
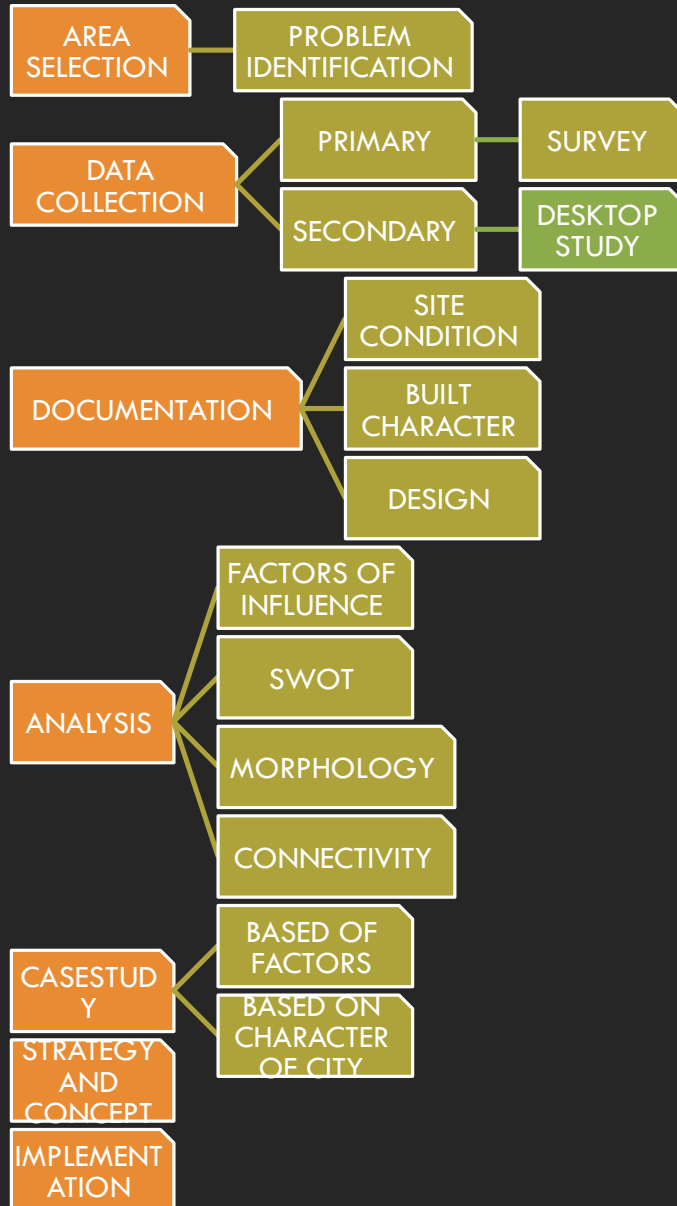
1. CASE STUDIES (Minimum 3)
   1. One regional (e.g., Bidar Fort Precinct)
   2. One national (e.g., Shahjahanabad, Delhi)
   3. One international (e.g., Cordoba or Granada, Spain)
   4. Compare: Intervention scale, public acceptance, policy integration, lessons learned

2. DESIGN STRATEGY & CONCEPTUALIZATION
   1. Vision Statement
   2. Design principles: Placemaking, sustainability, inclusivity, heritage integration
   3. Zoning proposals: Heritage core, tourism support zone, local activity areas
   4. Tactical Urbanism: Low-cost, temporary pilots (pop-up markets, art interventions)

3. DESIGN OUTCOMES
   1. Master plan & illustrative site plans (hand-drawn or digital)
   2. 3D massing or visualizations (SketchUp/Lumion)
   3. Proposed street sections, public realm details, material palettes

4. IMPLEMENTATION PLAN
   1. Phasing strategy: Short, medium, long-term goals
   2. Financial model: Funding sources (PPP, heritage grants, CSR)
   3. Policy & institutional frameworks for continuity

5. IMPACT ASSESSMENT
   1. Social, cultural, and economic benefits
   2. Risk & mitigation (loss of identity, commercialization, displacement)
   3. Measurable indicators (footfall, green cover, mobility stats)

6. CONCLUSION & RECOMMENDATIONS
   1. Key insights
   2. Urban design toolkit or guidelines
   3. Policy advocacy points for local government

Introduction

Kalaburagi, historically known as Gulbarga, represents a tapestry of architectural grandeur, cultural traditions, and layered urban history. The city's historic core, centered around the Kalaburagi Fort and its associated components—including the defensive moat, urban lake system, sacred Sharanbasveshwar Temple, the traditional neighborhood of Brahmapur, and an adjacent public garden—forms a unique socio-spatial landscape. This area reflects centuries of urban transformation, governance shifts, and socio-religious developments. Yet, amidst rapid urbanization and infrastructural neglect, this historic zone now grapples with spatial fragmentation, inadequate heritage management, and loss of place identity.

This research intends to investigate the morphogenesis of Kalaburagi's historic core and propose interventions rooted in urban design theory, heritage conservation frameworks, and contemporary planning paradigms to ensure the core remains a living heritage zone.

Historical Timeline of Kalaburagi

Period	Key Events
6th–12th Century	Ruled by Chalukyas and Rashtrakutas; Early Dravidian temples and tank-based settlements.
1347	Bahmani Sultanate founded; Fort built; Indo-Islamic architecture introduced.
15th–17th Century	Adil Shahi influence; lake and moat constructed; urban form expanded.
18th–19th Century	Under Nizam and British control; Civic institutions introduced (courts, railway, schools).
Post-1947	Rapid urbanization; neglect of historic fabric; infrastructure growth without heritage integration.

Architectural & Morphological Styles

1. Islamic Military Architecture: Fortification walls, domes, minarets (Bahmani era).

2. Vernacular Residential: Courtyard houses in Brahmapur; narrow winding streets.

3. Temple Architecture: Dravidian elements in Sharanbasveshwar Temple.

4. Urban Morphological Characteristics:Organic Layout: Non-grid street network, hierarchical nodes.Defensive Urbanism: Moat, walls, controlled entries.

5. Mixed Use Typologies: Religious, commercial, and residential blending.

6. Public Space System: Temple courtyards, fort squares, and lakeside gathering areas.

Case Studies (Best Practices)

a. Ahmedabad (India) – Pol Precincts

- Organic settlement with narrow streets and community-oriented courtyards.
- Initiatives: Heritage walks, adaptive reuse, local participation.

b. Puducherry French Quarters

- Colonial grid planning and street façades protected.
- Urban design controls to preserve scale, texture, and signage.

c. Hampi (India)

- A World Heritage Site.
- Landscape-sensitive interventions: buffer zones, visitor circulation paths, interpretation centers.

Key Literature and Thinkers

- **Kevin Lynch** – *The Image of the City* (1960)
  - Introduced concepts like paths, edges, districts, nodes, and landmarks to understand city legibility.

- **Jane Jacobs** – *The Death and Life of Great American Cities* (1961)
  - Advocated for mixed-use neighborhoods and the importance of human-scale design.

- **Camillo Sitte** – *City Planning According to Artistic Principles* (1889)
  - Emphasized aesthetics and historical continuity in urban squares.

- **UNESCO Guidelines** – Historic Urban Landscape Recommendation (2011)
  - Offers frameworks for integrating conservation with development.

Theoretical Concepts

a. Urban Morphology

- **Definition:** Study of the physical form of cities, including street patterns, plot sizes, and building types.

- **Purpose:** Helps in understanding how cities evolve, adapt, and respond to socio-political forces.

- **Types of Urban Morphology:**
  - *Organic Morphology:* Unplanned, evolved over time (e.g., Brahmapur).
  - *Planned Morphology:* Deliberate grid systems (e.g., colonial cantonments).
  - *Hybrid:* Mixture of both.
  - **Tools Used:** Layer mapping, Space Syntax, Typo-morphology studies.

b. Historic Urban Landscapes (HUL)

- **Introduced by:** UNESCO in 2011.

- **Definition:** An approach integrating urban heritage conservation into broader development strategies.

- **Principles:**
  - Sustainability
  - Community engagement
  - Heritage as a driver for economic and social development

- **Applications:** Used in historic towns like Ballarat (Australia) and Ahmedabad (India).

c. Place-Making & Public Realm

- **Definition:** Designing public spaces that promote community well-being and cultural identity.

- **Key Elements:**
  - Accessibility
  - Inclusivity
  - Identity
  - Interactivity

- **Types of Public Spaces:**
  - Civic squares (e.g., Temple courtyards)
  - Gardens and parks (e.g., Public Garden in Kalaburagi)
  - Waterfronts (e.g., Lake and Moat)

Study Area Introduction

- Location: Kalaburagi (formerly Gulbarga), Karnataka – situated in the Deccan Plateau region of southern India.

- Geographical Coordinates: Approximately 17.3297° N latitude and 76.8343° E longitude.

- Study Area Components:
  - Kalaburagi Fort: A monumental defensive structure dating back to the Bahmani Sultanate, reflecting Indo-Islamic military architecture.
  - Moat & Lake: Historic water management systems surrounding the fort, crucial for defense and urban ecology.
  - Sharanbasveshwar Temple: A prominent spiritual and social hub, symbolizing regional religious continuity.
  - Brahmapur: Traditional residential fabric with narrow lanes and courtyard houses, reflecting socio-cultural lifestyles.
  - Public Garden: A key open space within the core, contributing to community interaction and environmental quality.

- Historic Importance:
  - Served as the capital of the Bahmani Sultanate in the 14th century.
  - Hosted significant religious, administrative, and cultural developments over centuries.

- Current Context:
  - Facing urban pressures like traffic congestion, encroachments, and deteriorating infrastructure.
  - The area still holds potential for heritage-led regeneration through strategic urban design.

Case Study

Fort Area Analysis

a. Historical Background

•Built by: [E.g., Bahmani Sultans / Mughal rulers]

•Purpose: Defence, administrative headquarters

•Materials used: Stone masonry, lime plaster, local stone

b. Spatial Organization

•Central Citadel / Core fortifications

•Surrounding defensive walls and bastions

•Entry gates (Darwazas): Grand gateways with inscriptions/art

•Water storage systems (Baolis, tanks)

•Internal zoning: Royal quarters, barracks, granaries, temples or mosques

c. Architectural Features

•Thick stone walls (2–3 m thick)

•Arches, domes, chhatris, jharokhas

•Ornamentation: Minimal outside, intricate inside royal quarters

•Influence of Indo-Islamic or Deccan Sultanate style (depending on location)

d. Present Condition

•Partially in ruins / conserved

•Encroachments or adaptive reuse common

•ASI or local municipality control

Pol System / Old Residential Area Analysis

Introduction to Pols

'Pol' = a small gated residential neighborhood within old city cores, particularly found in Ahmedabad but conceptually similar in other old cities.

Developed for security, caste/community cohesion, and climate-sensitive design.

Spatial Layout

Narrow, winding lanes (reducing dust, noise)

Central chowk (public space)

Houses arranged in clusters, often around a temple or community well

Cul-de-sac ends for safety and privacy

Architectural Characteristics

Houses: Multi-storeyed, shared walls

Deep façades, internal courtyards

Wooden columns, carved brackets, overhangs (chajjas), jalis

Climate-sensitive: Ventilation shafts, thick walls, orientation

Social & Cultural Aspects
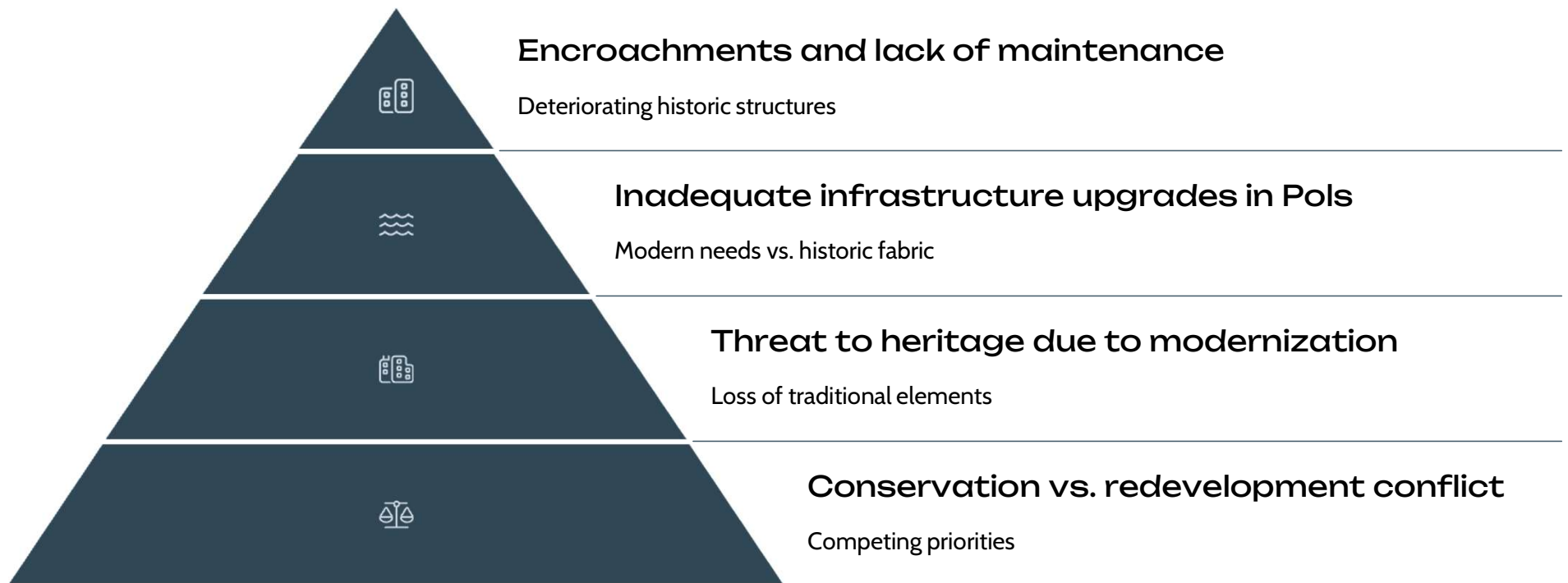
Strong community living

Hierarchical zoning: inner areas for upper caste/wealthy, outer for tradespeople

Common wells, temples, chabutras (bird feeders)

Comparative Analysis: Fort Area vs. Pol System

Aspect	Fort Area	Pol System
Purpose	Defense, administration	Residential, community living
Layout	Radial/axial with defensive planning	Organic, maze-like with dead ends
Architecture	Monumental, stone-based	Domestic, timber + masonry
Social Hierarchy	Royal/military elite	Caste/occupation-based neighborhood zoning
Accessibility	Controlled entry points	Gated but porous to insiders
Current Use	Heritage site, tourism, govt offices	Still inhabited or adapted for commercial use

Issues & Challenges

Encroachments and lack of maintenance

Deteriorating historic structures

Inadequate infrastructure upgrades in Pols

Modern needs vs. historic fabric

Threat to heritage due to modernization

Loss of traditional elements

Conservation vs. redevelopment conflict

Competing priorities

Recommendations

Heritage zoning and guidelines

Establish clear regulations for development in historic areas to protect architectural integrity while allowing for necessary improvements.

Adaptive reuse strategies for fort buildings

Transform historic structures for contemporary uses while preserving their heritage value and architectural features.

Infrastructure upgrade without damaging heritage

Implement sensitive infrastructure improvements that respect the historic fabric and character of the areas.

Promote heritage tourism sensitively

Develop sustainable tourism that benefits local communities while protecting cultural assets from overtourism.

Community participation in conservation

Engage local residents in decision-making processes to ensure conservation efforts reflect community needs and values.

Conclusion

Historic Evolution

Representing architectural heritage

Socio-Cultural Significance

Community-oriented planning

Sustainable Lessons

Climate-responsive design

The fort areas together represent the historic, socio-cultural, and architectural evolution of Indian cities. Their climate-responsive, community-oriented planning offers lessons for sustainable urban development.