

Archaeological Heritage and Sustainable Development: Positioning Cultural-Ecological Conservation within Viksit Bharat 2047

Dhipragya Dwivedi*

MSc Environmental Science, Global Open University, Nagaland, UGC NET Environmental Science

Received: 02 / 03 / 2026

Accepted: 09 / 04 / 2026

Published: 24 / 04 / 2026

Abstract: This paper examines how archaeological heritage can be repositioned as a strategic driver of sustainable development within the framework of Viksit Bharat 2047, India's national vision of becoming a developed nation by the centenary of its independence. It argues that the prevailing conservation paradigm, which treats monuments and archaeological sites primarily as isolated objects of protection, is inadequate for an era defined by climate change, rapid urbanization, and the imperative of inclusive growth. Drawing on the concept of cultural-ecological conservation, the paper contends that heritage must be understood as embedded within living landscapes whose economic, social, and environmental functions are inseparable. The study synthesizes scholarly literature on heritage and sustainability (DeSilvey, 2017; Bandarin and Van Oers, 2012), international policy frameworks including UNESCO's integration of the Sustainable Development Goals into the World Heritage Convention (UNESCO, 2015), and evidence on climate threats to archaeological sites (Nastou et al., 2024; Samuels, 2022). It applies these frameworks to the Indian context, where pilgrims, tourists, agrarian communities, and municipal authorities interact daily with a vast archaeological estate. The paper proposes a policy architecture anchored in institutional coordination, community stewardship, climate-resilient conservation, and the productive integration of heritage into the green and cultural economies. It concludes that cultural heritage is not an obstacle to development but a precondition for a genuinely sustainable and culturally grounded vision of a developed India.

Keywords: *Archaeological heritage; sustainable development; cultural-ecological conservation; Viksit Bharat 2047; climate resilience; heritage tourism.*

Cite this article: Dwivedi, D. (2026). Archaeological Heritage and Sustainable Development: Positioning Cultural-Ecological Conservation within Viksit Bharat 2047. *MRS Journal of Multidisciplinary Research and Studies*, 3(4), 47-50.

Introduction

Viksit Bharat 2047 presents India with an ambitious and transformative target: to become a fully developed nation by 2047, the hundredth anniversary of independence (NITI Aayog, 2023). The vision is not limited to economic metrics such as per-capita income and industrial output; it explicitly encompasses quality of life, environmental sustainability, and the consolidation of India's civilizational identity. Within this expansive agenda, cultural heritage occupies a curious position. It is invoked rhetorically as the soul of the nation and as a source of soft power and tourism revenue, yet it is rarely integrated systematically into the technical and financial planning that defines development policy. This paper addresses that gap by asking a central question: how can archaeological heritage be positioned as an active agent of sustainable development rather than a passive repository of the past?

The notion of cultural-ecological conservation provides a conceptual bridge. It recognizes that archaeological sites are not inert stones but dynamic systems whose value is produced through continuous interaction between cultural meaning and ecological function (DeSilvey, 2017). A medieval stepwell, for example, is simultaneously an architectural monument, a rainwater-harvesting infrastructure, a habitat for aquatic life, a site of ritual, and a source of livelihood. Treating such places as purely archaeological isolates their meanings and undermines their contemporary utility.

The paper therefore develops an integrated framework that reads heritage through the triple lens of economic viability, social equity, and environmental resilience, the three pillars of sustainable development.

Conceptual Foundations: Heritage as Sustainable Development From Preservation to Dynamic Conservation

Traditional conservation has been dominated by what has been called a preservationist ethic, the conviction that heritage should be safeguarded in as close to its original state as possible. This ethic has been challenged on both practical and philosophical grounds. DeSilvey (2017) argues that the relentless pursuit of preservation misunderstands the nature of material change, proposing instead a mode of cultivated decay that allows ecologically and culturally significant processes to proceed on their own terms. While not every site can or should be allowed to decay, her critique usefully destabilizes the assumption that conservation is always opposed to change. For India, where thousands of sites are simultaneously sacred, inhabited, and exposed to a monsoon climate, a rigid preservationist stance is both financially unrealistic and culturally insensitive.

A more productive foundation is offered by the Historic Urban Landscape approach advanced by Bandarin and Van Oers (2012). This framework treats heritage as inhering in entire

landscapes rather than in isolated monuments, and insists that conservation be integrated with contemporary urban planning, social needs, and environmental management. The approach is directly relevant to Indian cities such as Jaipur, Varanasi, and Hyderabad, where historic fabric and modern infrastructure are woven together. By reframing heritage as a dynamic landscape rather than a bounded artifact, the framework aligns conservation with the planning imperatives of a developing nation.

The Sustainable Development Goals and Heritage

At the international level, the recognition that heritage contributes to sustainable development has been formalized in policy. UNESCO's Policy to Integrate a Sustainable Development Perspective into the Processes of the World Heritage Convention explicitly links heritage conservation to the achievement of the Sustainable Development Goals, emphasizing that cultural and natural heritage can drive economic growth, social cohesion, and environmental sustainability (UNESCO, 2015). This marks a decisive shift from a purely cultural mandate toward one in which heritage is understood as a development resource. The policy's emphasis on integrating heritage within broader national and local development strategies provides a normative foundation for India's own efforts under *Viksit Bharat 2047*.

The Indian Archaeological Estate: Scale, Diversity, and Governance

India's archaeological heritage is among the most extensive and diverse in the world. The country currently hosts forty-two World Heritage properties recognized by UNESCO, spanning Buddhist stupas, Mughal architecture, colonial-era railways, and dramatic natural landscapes. Beyond these internationally recognized sites, the Archaeological Survey of India has declared several thousand monuments of national importance under the Ancient Monuments and Archaeological Sites and Remains Act, 1958, while state governments and municipal bodies administer countless further sites of regional and local significance. This layered system of governance, in which responsibility is diffused across central, state, and local authorities, creates both strengths and chronic coordination failures.

The fragmentation of governance is compounded by a mismatch between the scale of the estate and the resources devoted to it. Conservation funding is historically concentrated on a small number of high-profile monuments, while the vast majority of declared sites receive routine maintenance at best. This selective attention reflects a tourism-led logic in which investment follows visitor numbers rather than cultural significance or ecological vulnerability. As a result, large tracts of the heritage estate are neglected, degraded by encroachment, weathering, and the cumulative effects of unmanaged visitor pressure. For a nation seeking to build an inclusive development model, the concentration of heritage investment on a few flagship sites is both inequitable and unsustainable.

Cultural-Ecological Conservation: An Integrated Framework

The concept of cultural-ecological conservation reframes the relationship between cultural and natural heritage, which Indian traditions have never fully separated. Across the subcontinent, sacred groves, stepwells, temple tanks, and pilgrimage landscapes encode ecological knowledge within cultural form. A temple tank, for instance, functions simultaneously as a ritual space and as a managed water reservoir that recharges groundwater and supports

biodiversity. Archaeologists increasingly recognize that such sites were engineered as integrated systems in which spiritual devotion and environmental stewardship were mutually constitutive (DeSilvey, 2017). Recovering this integrated reading is essential if conservation is to serve sustainability.

An integrated framework has at least four dimensions. First, hydrological and landscape functions: many monuments incorporate water management, drainage, and microclimatic regulation that remain operational today. Second, biodiversity values: heritage landscapes often host rare flora and fauna that depend on the microhabitats created by ancient construction. Third, social and economic functions: sites generate livelihoods through tourism, pilgrimage, craft, and local enterprise. Fourth, identity and well-being: communities draw meaning, belonging, and psychological health from their proximate heritage. A cultural-ecological approach treats these dimensions as interlocking rather than separate, allowing conservation interventions to deliver multiple benefits simultaneously.

The engineering insight is that an integrated approach should ideally operate before large infrastructure projects alter the landscape. In practice, Indian development has frequently placed heritage in tension with infrastructure, whether through dam projects, roads, or urban expansion near monuments. A cultural-ecological reading supplies a more constructive rationale: rather than treating heritage as an obstacle to be mitigated, planners can treat it as a fixed cultural-ecological asset around which development is organized. This inversion, in which heritage shapes landscape rather than merely enduring within it, is central to the argument presented here.

Climate Change as the Defining Challenge of the Twenty-First Century

Climate change has emerged as the single most consequential threat to the world's archaeological heritage. Rising sea levels, intensifying storms, coastal erosion, altered humidity cycles, and more extreme temperature regimes combine to accelerate the physical deterioration of sites and, in some cases, to inundate or destroy them outright (Nastou et al., 2024). Samuels (2022) observes that the World Heritage Convention, though not drafted with climate change in mind, possesses structural affinity with the challenge, drawing on mechanisms of monitoring, reporting, and international cooperation that can be adapted to climate-related threats. Yet the pace of adaptation has been slow relative to the pace of environmental change.

India is acutely exposed to these hazards. Its long coastline, home to numerous maritime archaeological sites and forts, faces rising seas and intensified cyclones. Its monsoon-dependent interior experiences changing rainfall patterns that affect the moisture regimes of stone and masonry, accelerating salt crystallization, biological colonization, and structural fatigue. Inland and Himalayan sites confront glacial retreat, permafrost instability, and landslides. The distributive injustice of climate change is apparent here as elsewhere: the sites most at risk are often those in poorer, more remote regions with the least capacity for costly intervention. A sustainable heritage policy for *Viksit Bharat 2047* must therefore be, first and foremost, a climate-resilience policy.

Addressing climate threats requires a shift from reactive repair to anticipatory management. This entails systematic climate risk mapping of the heritage estate, the development of site-

specific adaptation plans, the retrofitting of drainage and structural systems, and the integration of heritage considerations into national and regional climate strategies including India's Nationally Determined Contributions and adaptation plans. It also demands sustained investment in monitoring technologies, from satellite-based remote sensing to in-situ sensor networks, that can detect change early and cheaply. Without such anticipatory investment, the nation risks losing precisely those archaeological resources it intends to mobilize for tourism and identity in 2047.

Heritage, Economy, and Community: The Social Dimension

Heritage Tourism and Inclusive Growth

Heritage tourism is among the most tangible linkages between archaeological heritage and economic development. India's tourism sector, a substantial contributor to GDP and employment, is anchored in its cultural and natural attractions. Studies of Rajasthan's heritage cities illustrate both the promise and the peril of this dependence: tourism generates significant income, employment, and enterprise around monuments, yet it also imposes pressures that can degrade the very assets on which it depends (Sharma and Singh, 2020). The challenge for policymakers is to capture the economic benefits of heritage tourism while managing visitor numbers, protecting site fabric, and ensuring that revenues reach local communities rather than flowing only to distant operators.

Sustainable heritage tourism is not merely about crowd control; it is about expanding the base of heritage-based livelihoods. Currently, the economic benefits of heritage are heavily concentrated in a handful of destinations. A more equitable model would develop secondary and tertiary circuits, linking clusters of monuments in underserved regions, promoting community-based accommodations, handicrafts, and cuisine, and ensuring that procurement and employment favor local residents. Such an approach aligns heritage with the distributive ambitions of Viksit Bharat 2047, transforming monuments from passive attractions into engines of localized prosperity.

Community Stewardship and Cultural Custodianship

Sustainable conservation depends fundamentally on the cooperation of the communities that live beside and within heritage landscapes. For centuries, Indian communities have acted as de facto custodians of temples, stepwells, and pilgrimage routes, maintaining them through religious practice and local custom. Top-down conservation, by contrast, has often alienated these communities by excluding them from decision-making, restricting traditional uses, and reallocating revenues. The result has been a recurring cycle of neglect and conflict that undermines both preservation and development.

A cultural-ecological approach reverses this dynamic by treating communities as partners rather than obstacles. This means formalizing mechanisms for local participation in conservation planning, recognizing and supporting traditional stewardship practices, ensuring benefit-sharing from tourism revenues, and protecting the intangible cultural heritage, including ritual, craft, and oral tradition, that animates archaeological places. When communities hold a tangible stake in heritage, they become its most effective guardians. Community stewardship is therefore not a concession to sentiment but a practical condition of long-term sustainability.

A Policy Architecture for Cultural-Ecological Conservation

Translating the cultural-ecological framework into practice requires a coherent set of policy instruments. The following recommendations are offered as a starting architecture for integrating archaeological heritage into Viksit Bharat 2047.

Institutional Coordination and National Planning

The fragmentation of heritage governance across the Archaeological Survey of India, state departments, municipalities, and line ministries must be addressed through a binding coordination mechanism. The national development plan should incorporate a dedicated heritage component, with defined targets, budgets, and accountability. Heritage should be formally recognized as a category within national and state planning frameworks, alongside infrastructure, water, and energy, so that it is considered at the outset of development decisions rather than as an afterthought.

Climate-Resilient Conservation

India should commission a comprehensive climate vulnerability assessment of its declared and inscribed heritage. The results should drive a prioritized adaptation portfolio, with high-risk sites receiving anticipatory interventions including drainage, stabilization, and protective engineering. Heritage conservation should be explicitly integrated into national climate adaptation planning and into State Action Plans on Climate Change. Monitoring capacity, including remote sensing and sensor networks, should be expanded as a core conservation function rather than an occasional research exercise.

Financing and Benefit-Sharing

Heritage funding should be diversified beyond annual budgetary allocations. Instruments worth exploring include earmarked tourism levies, public-private partnerships for appropriate commercial uses, dedicated heritage bonds, and corporate social responsibility contributions. Critically, financing mechanisms should embed mandatory benefit-sharing, ensuring that a defined share of heritage-derived revenue is channeled to local communities and site maintenance. A sustainable financial model is a precondition for a sustainable conservation model.

Community Participation and Intangible Heritage

Conservation law and practice should be reformed to institutionalize community participation. This includes statutory consultation requirements in conservation planning, recognition of customary stewardship, protection of intangible heritage associated with archaeological sites, and grievance mechanisms. Skill-building programs should link heritage conservation with livelihood generation, training local artisans, guides, and site managers. Communities should be positioned as beneficiaries and co-managers, not merely as stakeholders to be consulted.

Heritage as a Green Infrastructure Asset

Finally, archaeological heritage should be recognized as green infrastructure with genuine environmental value. Restoring stepwells and temple tanks as water systems, protecting sacred groves for biodiversity, and managing heritage landscapes as urban green spaces all convert cultural assets into climate and ecological services. By measuring and communicating these co-benefits, heritage can attract funding from environmental and climate budgets, aligning conservation with India's green growth agenda.

Conclusion

Viksit Bharat 2047 will be judged not only by its GDP trajectory but by the quality of life it affords its citizens and the integrity of the civilization it sustains. This paper has argued that archaeological heritage must be repositioned from a passive object of protection to an active engine of sustainable development. The cultural-ecological framework advanced here integrates economic vitality, social equity, and environmental resilience, treating monuments and archaeological landscapes as living systems embedded in contemporary life rather than as relics to be preserved in isolation.

The challenges are formidable. Fragmented governance, chronic underfunding, the accelerating impacts of climate change, and the persistent exclusion of communities all threaten the viability of the heritage estate. Yet these challenges are not insuperable. With institutional coordination, climate-resilient planning, diversified and benefit-sharing finance, genuine community stewardship, and the recognition of heritage as green infrastructure, India can convert its archaeological wealth into a decisive asset for development.

In doing so, India would affirm a distinctive understanding of development, one in which progress is measured not only in material indicators but in the continuity of culture and the health of the landscapes that sustain it. Sustainable development, ultimately, is the responsible transmission of value across generations. Archaeological heritage is the most concrete record of that transmission. Placing cultural-ecological conservation at the heart

of Viksit Bharat 2047 is therefore not a concession to the past but a commitment to the future.

References

1. Bandarin, F., and Van Oers, R. (2012). *The Historic Urban Landscape: Managing Heritage in an Urban Century*. Wiley-Blackwell.
2. DeSilvey, C. (2017). *Curated Decay: Heritage Beyond Saving*. University of Minnesota Press.
3. Nastou, M. P. P., et al. (2024). Effects of climate change on open air heritage: A review. *npj Heritage Science*, 12, Article 01484.
4. NITI Aayog. (2023). *Vision for Viksit Bharat @ 2047: An Approach Paper*. Government of India.
5. Samuels, K. L. (2022). Global climate change and UNESCO World Heritage. *International Journal of Cultural Property*, 29(1), 1-17.
6. Sharma, R., and Singh, A. (2020). Cultural heritage and tourism development: A case study of Rajasthan. In *Tourism and Cultural Heritage in India*. ResearchGate.
7. UNESCO. (2015). *Policy Document for the Integration of a Sustainable Development Perspective into the Processes of the World Heritage Convention*. United Nations Educational, Scientific and Cultural Organization.