Final Year Project Showcase Batch 2020
Year 2024

Department: Department of architecture and planning Programme: Bachelor of Architecture	
1	**Project Title** **Cultural heritage preservation on sustainable tourism practices: Case of Pahalawewa, Sri Lanka**
2	**Project Idea** A sustainable tourism retreat near Sri Lanka's heritage sites addressing the negative impacts of mass tourism on culture. It integrates traditional architecture, passive design, and cultural programming to preserve heritage, empower communities, and offer authentic, environmentally responsible visitor experiences.
3	**Process** The implementation process begins with minimal land intervention, preserving existing vegetation and aligning with the site's natural waterlines. Foundations use spun piles to elevate structures, ensuring resilience against flooding and enhancing passive ventilation. Locally sourced materials such as granite, bamboo, timber, and terracotta tiles reduce the carbon footprint and reflect regional identity. Elevated wooden walkways and observation decks connect the eco-resort and cultural center without disturbing the natural terrain. Solar panels, rainwater harvesting, and wastewater recycling systems are integrated to promote sustainable operation. The phased construction ensures efficient use of resources while respecting the ecological and cultural fabric of the site.
4	**Outcome** The final outcome of the project is a multi-functional development that integrates a cultural center and tourist resort into one cohesive architectural entity. The cultural center serves as a communal hub for indigenous communities, fostering engagement and cultural exchange with tourists.The resort promotes wellness through integrated walking paths and cycling tracks that encourage physical activity and exploration. Elevated structures minimize environmental disruption, and strategic use of sustainable materials ensures the project's long-term ecological balance. By preserving rich biodiversity and local wildlife habitats, the project sets a precedent for responsible tourism and context-sensitive development in Sri Lanka.
5	**Evidence (Theoretical Basis)** Supporting Evidence and Theoretical Framework This hypothesis is grounded in a combination of sustainable development theory, vernacular architecture theory, and experiential tourism models, supported by both primary and secondary data sources. 1. Sustainable Development Theory: This research draws on principles of sustainable development, which emphasize a balanced integration of environmental protection, economic growth, and socio-cultural preservation. According to the UN's Sustainable Development Goals, preserving cultural heritage while reducing carbon emissions aligns with global sustainability benchmarks. By embedding traditional design elements and practices, the project addresses environmental sustainability through reduced energy consumption and local material usage, as identified in your literature review of traditional Sri Lankan architecture. 2. Vernacular Architecture Theory: The study applies the theory of vernacular architecture, which emphasizes building with locally available materials and climate-responsive design rooted in cultural and historical context. This theory supports the hypothesis by demonstrating how traditional Sri Lankan design features—such as open courtyards, sloped

	clay tile roofs, and timber structures—can inform sustainable building methods. These design strategies reduce reliance on artificial climate control systems and support cultural preservation by continuing architectural traditions. 3. Experiential Tourism and Cultural Immersion: The research is also informed by experiential tourism models, which assert that modern tourists seek meaningful and authentic cultural experiences. According to Fletcher's work in "Romancing the Wild," ecotourism and cultural tourism appeal to travelers' desires for immersive, transformative experiences. Integrating intangible heritage—such as ceremonies, performances, and craftsmanship—into architectural space reinforces the authenticity of the tourist experience, contributing to higher guest satisfaction and return rates. Methodological Evidence • Literature Review: Reviewed scholarly articles, books, and existing case studies, including international examples of sustainable architecture and culturally integrated design. Examples from Sri Lanka's heritage structures (e.g., Sigiriya, ancient mansions) and sustainable tourism practices globally (e.g., India, Indonesia) provide theoretical and contextual grounding. • Case Studies: National and international examples of architectural projects that successfully integrate cultural heritage into sustainable tourism facilities have been analyzed. These case studies validate the viability of fusing tradition with modern green building technologies to create both ecologically and culturally beneficial tourism infrastructure. • Qualitative Research: Structured interviews with architects, conservation experts, and community members will provide insights into the cultural, environmental, and economic impact of heritage-based tourism facilities. The data aims to validate the hypothesis that culturally integrated sustainable architecture enhances community engagement and supports local economies. • Quantitative Research (Planned): Online surveys targeted at tourists and locals will evaluate their perceptions of cultural authenticity, environmental responsibility, and satisfaction with heritage-rich tourism accommodations. This will statistically support or challenge the hypothesis con • Concerning guest satisfaction and occupancy trends.
6	**Impact on Sustainability of Urban Regions or SDG-11 "Sustainable Cities and Communities"** This thesis directly supports Sustainable Development Goal 11: Make cities and human settlements inclusive, safe, resilient, and sustainable, by addressing key sub-targets through architectural design and research focused on cultural heritage and sustainable tourism in Sri Lanka. 1. Strengthen efforts to protect and safeguard the world's cultural and natural heritage The core of this research revolves around preserving both tangible and intangible cultural heritage through built form. By integrating traditional Sri Lankan architectural principles, crafts, and planning

	patterns into eco-tourism infrastructure, the project not only protects cultural identity but revitalizes endangered vernacular traditions, especially in rural and ecologically sensitive zones. This reinforces community pride and enhances cultural continuity. 2. Inclusive and sustainable urbanization Through the adaptive reuse of traditional knowledge in new sustainable developments, the research proposes a model for responsible rural-urban transitions. The design offers a decentralized tourism strategy where visitors engage with regional cultural centers instead of congesting urban cores. This indirectly reduces urban infrastructure stress while ensuring that development is culturally rooted and ecologically sensitive. 3. Reduce the adverse environmental impact of cities By promoting low-energy architecture, use of local materials, and passive climate control strategies (e.g., open courtyards, ventilated facades, rainwater harvesting), the proposed resort and cultural center reduces reliance on mechanical systems, minimizing carbon emissions and waste. This shift toward low-impact tourism facilities contributes to environmental sustainability at both site and regional scales. 4. Provide access to safe, inclusive and accessible green and public spaces The master plan emphasizes pedestrian and cycle-friendly circulation, integrated nature trails, and public interaction nodes where locals and tourists can engage in cultural exchange. These open, inclusive spaces support well-being, biodiversity, and social inclusion—key indicators of sustainable communities. 5. Strengthening Urban-Rural Linkages By situating the development in a less urbanized area and utilizing a model that benefits local communities economically and socially, the research supports balanced development across regions. Craftspeople, performers, and farmers are included in the economic loop, helping reduce rural-to-urban migration pressures by fostering local employment and community engagement. 6. Community-Driven Resilience and Cultural Identity The architectural approach strengthens community resilience by integrating disaster-aware, climate-responsive design, grounded in generations of local wisdom. This enhances long-term sustainability, particularly in climate-sensitive areas of Sri Lanka, while maintaining architectural and cultural distinctiveness.
7	**Competitive Advantage or Unique Selling Proposition**
a	**Attainment of any SDG** The architectural intervention, a sustainable cultural centre and resort in the Dambulla, Pahalawewa region directly contributes to the attainment of several Sustainable Development Goals (SDGs), addressing local environmental, cultural, and socio-economic needs. SDG 11: Sustainable Cities and Communities The project creates an inclusive and culturally rich space where indigenous communities and tourists can interact meaningfully. This fosters mutual respect, cultural exchange, and preservation of intangible heritage. The community centre provides a platform for locals to exhibit traditional crafts, perform rituals,

	and share ancestral knowledge, reinforcing identity and pride. In a region where rapid tourism development often sidelines local voices, this design promotes locally rooted, sustainable growth. SDG 4: Quality Education The project includes spaces for cultural education, children's learning zones, and hands-on workshops that teach indigenous crafts and environmental knowledge. By making culture and heritage part of the learning experience, children in the community gain access to informal yet impactful education that preserves identity and equips them with practical skills. SDG 8: Decent Work and Economic Growth By integrating local industries into the operational and design framework from construction using indigenous materials like terracotta tiles, thatch, and clay bricks, to daily operations involving local food and craft suppliers the project enhances employment and micro-enterprise opportunities. It creates a sustainable tourism model where the economic benefits remain within the local community, reducing migration and supporting economic resilience. SDG 13: Climate Action The use of climate-responsive design strategies such as passive cooling, natural lighting, and green roofing along with materials like wood and thatch reduces the project's carbon footprint. The site planning respects natural contours and incorporates vegetation buffers, ensuring minimal environmental impact and promoting resilience to climate variability. SDG 14: Life Below Water Though the site is inland, the design takes an integrated approach to water conservation. Runoff management and wetland protection strategies reduce pollution entering nearby water bodies and streams. Educational programs within the centre also raise awareness among tourists and locals about the importance of protecting aquatic ecosystems and sustainable water use. SDG 15: Life on Land The project is planned with respect to local biodiversity, avoiding disruption of natural habitats. Elevated walkways, buffer zones, and native vegetation preserve wildlife corridors. This not only supports wildlife conservation efforts in the area but also enhances eco-tourism by offering educational nature trails and guided tours.
b	**Environmental Aspect** Carbon footprint reduction Green Roofing and Vegetation Integration Greywater Recycling Use of Solar Energy Conservation of Flora and Fauna
c	**Cost Reduction of Existing Product** Use of Renewable energy like Solar power Generate revenue from natural landscape through tourism
8	**Target Market** International and domestic tourists Local communities

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