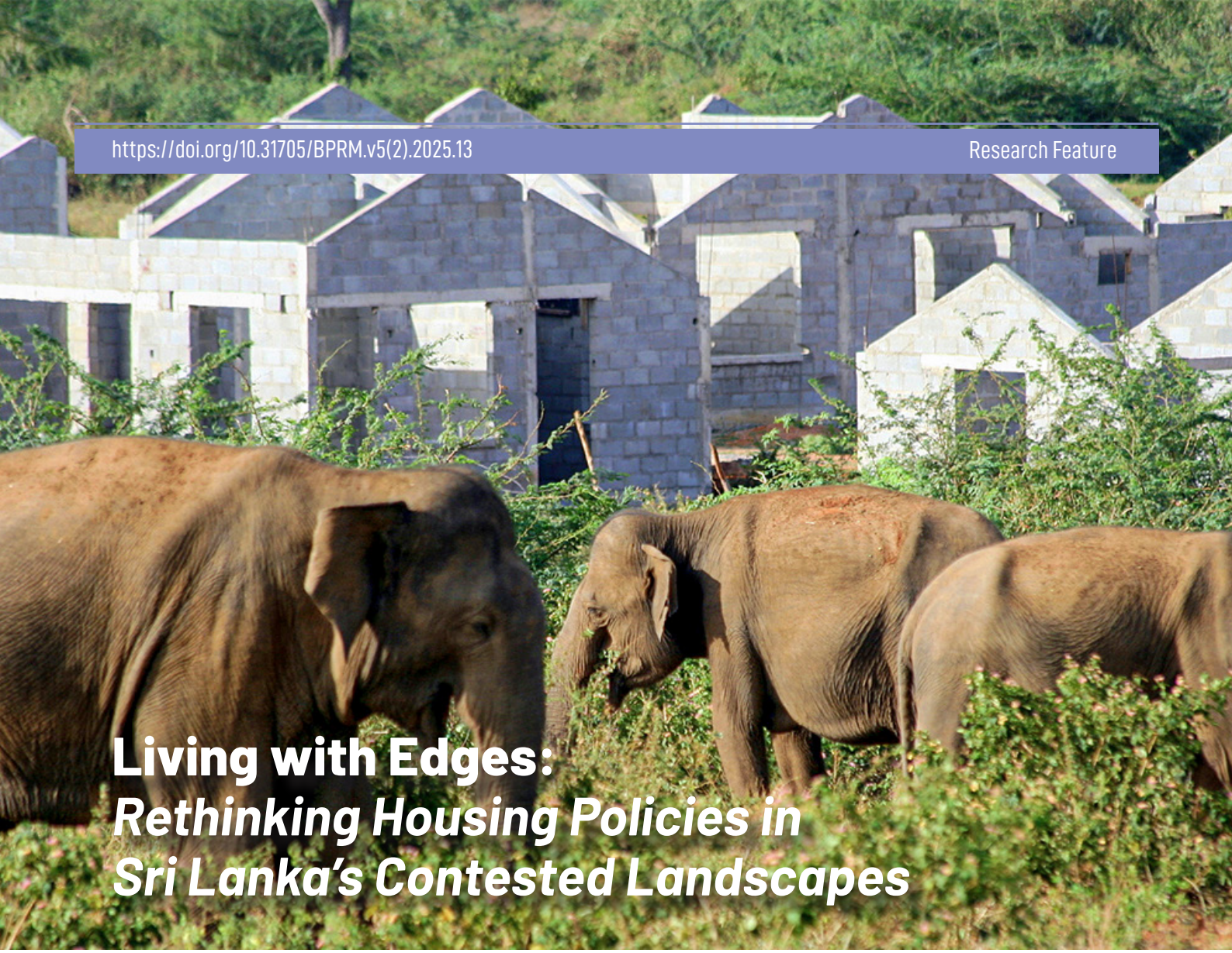
https://doi.org/10.31705/BPRM.v5(2).2025.13 Research Feature



Living with Edges: *Rethinking Housing Policies in Sri Lanka's Contested Landscapes*

Fig 03: Human Elephant Conflict Incidents 2022, Source: Department of Wildlife Conservation, Annual Report on Human Elephant Conflict in Sri Lanka, 2024. (Graphical Representation by Sandali Kangara SCREEN Research Team)

Across the world, rural landscapes are increasingly becoming zones of competition; between agriculture and conservation, infrastructure and ecology, and human safety and wildlife survival. Scholars describe these spaces as "contested landscapes": places where ecological, social, and economic interests overlap, generating continuous negotiation and conflict [1]. In such settings, decisions about land use, settlement, and development are never neutral; they are inherently political, ecological, and ethical.

In Sri Lanka, contested landscapes manifest most visibly in the dry zone, where agricultural expansion, forest clearance, and rural resettlement initiatives have reconfigured ancient village territories into fragmented mosaics of cultivation, habitation, and remnant wildlife habitat. The most distressing consequence of this transformation is the escalation of Human Elephant Conflict (HEC), which now claims hundreds of humans and elephant lives annually.

Existing interventions; elephant drives, electric fencing, and translocations, address symptoms rather than root causes. SCREEN's research takes a different position: instead of focusing on managing elephants, we examine how settlement planning and land use decisions can create spatial conditions that support coexistence. To understand this, we must revisit how earlier societies sustained harmony within the same landscapes and what lessons their spatial intelligence offers for contemporary policy.

Ancient Villages: Coexistence through Spatial Wisdom

Long before planning became formalized, Sri Lanka's traditional villages operated as coherent socio ecological systems. Anchored around irrigation tanks, they followed a finely calibrated spatial structure: compact hamlets (Gangoda), occupied the core; garden plots and open fields (Tis Bambe),

formed an intermediate ring; and paddy, scrubland, and forest created the outer buffer layers (see Fig. 02). These arrangements were not accidental; they embodied ecological literacy and collective risk management.

The arrangement produced distinct yet permeable territorial zones. Humans dominated the hamlet, wildlife occupied the forest cover, and the spaces in between; cultivation strips (Kurulu Paluwa), seasonal chena fields, and shared water bodies, functioned as negotiated interfaces. Villagers intentionally shared resources such as reserve tanks and cultivation edges with elephants (and other wildlife) during specific seasons, engaging in what contemporary scholars identify as adaptive resource partitioning. This was not accidental tolerance but deliberate, culturally embedded spatial negotiation.

This spatial layering ensured both perceived and functional safety. Houses located in the inner cluster enabled community vigilance; peripheral cultivation zones offered early warning and visibility; and forest edges remained permeable yet respected. In these systems, boundaries were thresholds, not walls; zones of negotiation where humans and elephants coexisted through seasonal rhythms and mutual avoidance [2].

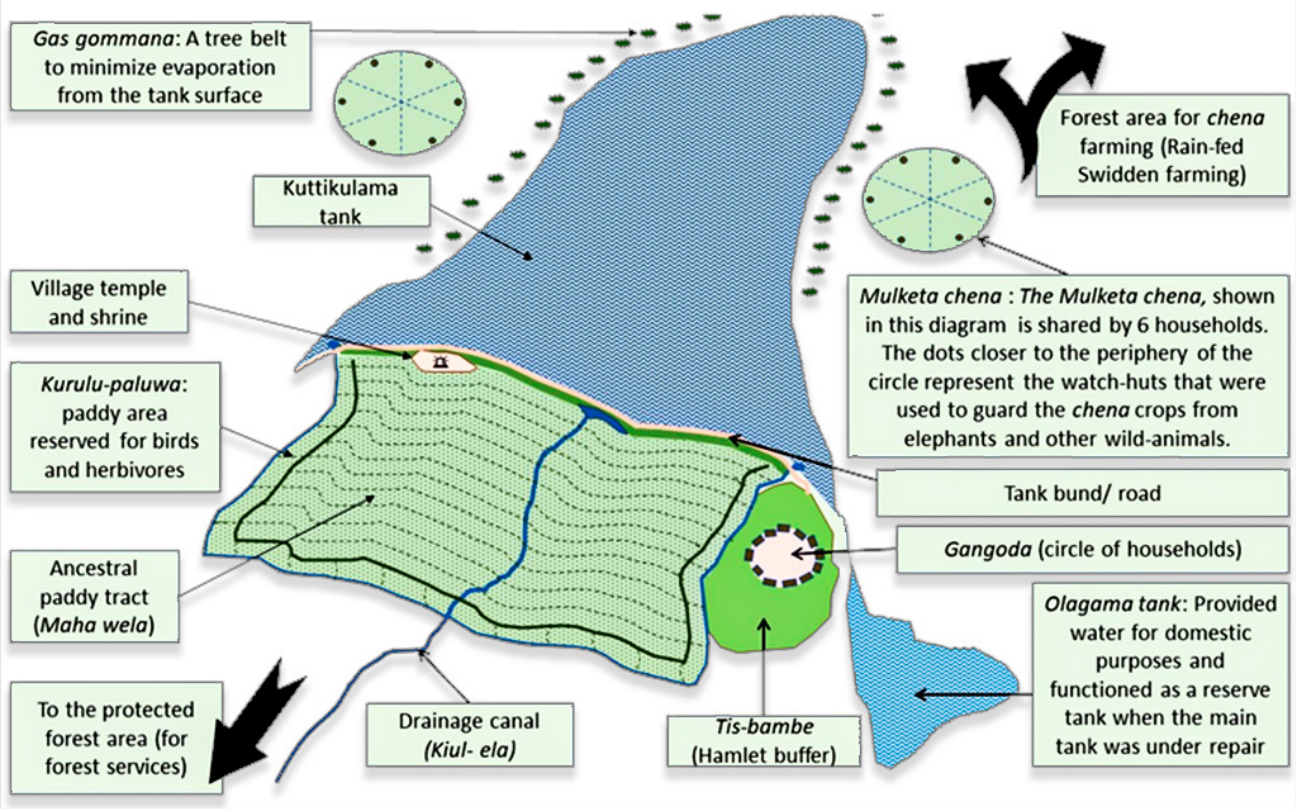


Fig 02: Ancient tank village structure in Kuttikulama early 19th century, Source: Anuradha, J. M. P. N., Fujimura, M., Inaoka, T., & Sakai, N. "The Role of Agricultural Land Use Pattern Dynamics on Elephant Habitat Depletion and Human Elephant Conflict in Sri Lanka", 2019

From Spatial Harmony to Fragmented Contest

The colonial and post colonial eras disrupted this spatial equilibrium. Mid twentieth century resettlement schemes introduced linear, road aligned layouts and scattered homesteads, replacing the compact communal clusters. Simultaneously, population growth and irrigation expansion pushed settlements deeper into elephant habitats, altering landscape legibility and erasing ecological thresholds.

Figure 03 illustrates how contemporary HEC incidents are concentrated across the dry zone, which now constitutes nearly 70% of Sri Lanka's contested landscape. As homesteads became dispersed com-

munal vigilance weakened, open fields were converted to unregulated farmlands and forest edges transformed into points of direct confrontation. The once negotiated "edges" of coexistence hardened into battle lines.

These transformations reshaped not only land use patterns but also the emotional geographies of rural life. Where traditional settlement forms fostered a sense of belonging and collective security, modern patterns have produced isolation, uncertainty, and chronic stress. Residents report restricting movement after dusk, abandoning peripheral fields, and experiencing chronic stress what researchers now recognize as 'perceived safety deficits' which is directly linked to settlement morphology [3].

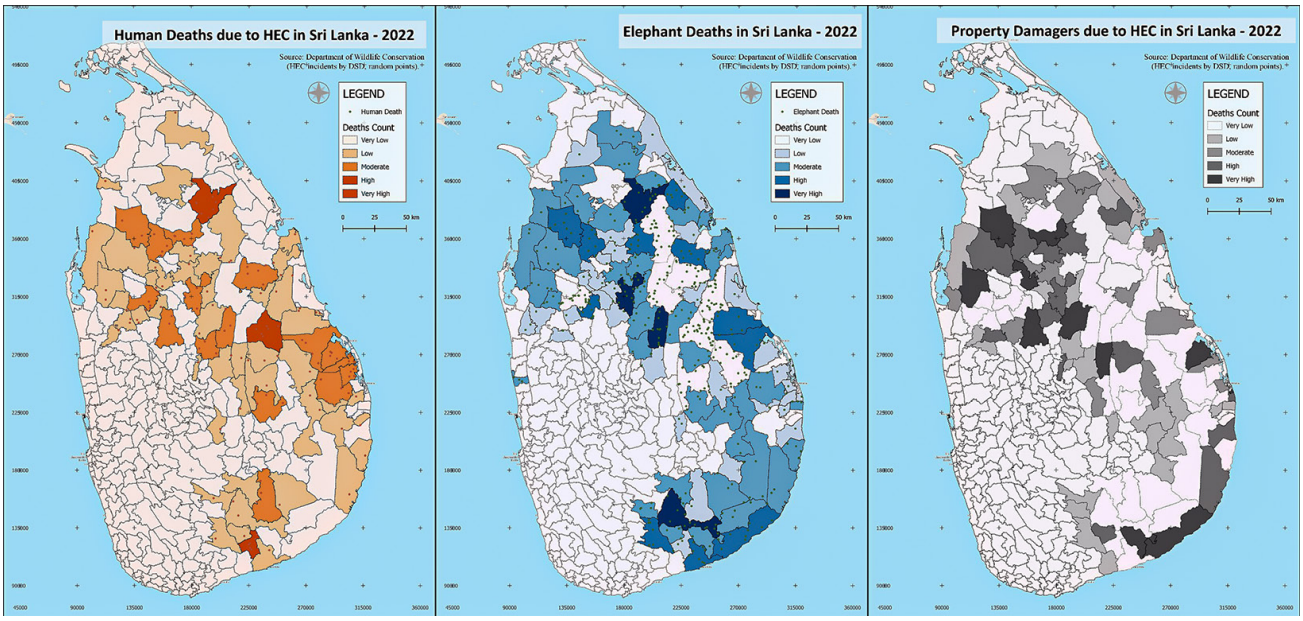


Fig 03: Human Elephant Conflict Incidents 2022, Source: Department of Wildlife Conservation, Annual Report on Human Elephant Conflict in Sri Lanka, 2024. (Graphical Representation by Sandali Kangara SCREEN Research Team)

Why a Housing Policy Framework Matters

Within this context, a new housing policy for contested landscapes becomes not simply a technical requirement but a socio ecological imperative. Existing rural housing schemes prioritize shelter provision, infrastructure, and agricultural access, while largely overlooking spatial psychological factors that determine whether humans and elephants can safely coexist.

A well structured housing policy can therefore serve as a spatial instrument of coexistence, determining not merely housing locations but the very morphology of settlements within shared landscapes. Here lies the core contribution of this research. Our ongoing analysis demonstrates that such policy must move beyond conventional zoning logic to incorporate three interdependent layers:

Ecological Layer: Identify and legally secure ecological corridors, seasonal water routes, and elephant movement paths before allocating land. Habitat mapping and participatory GIS can prevent the creation of new conflict zones.

Spatial Cultural Layer: Draw inspiration from traditional tank based settlement morphology, reinstating compact hamlets, community courtyards, and layered buffers. These are not nostalgic symbols but proven frameworks for collective safety and ecological resilience.

Social Perceptual Layer: Recognize perceived safety as a formal planning parameter. Visibility, proximity, communal spaces, and clear thresholds shape how safe residents feel and how confidently they engage with their surroundings.

Learning from the Past, Planning for Coexistence

Drawing on these insights, we propose four core principles that should guide future housing policy in HEC prone contested landscapes;

Spatial Impact Assessments: Conduct alongside Environmental Impact Assessments to evaluate how proposed layouts affect visibility, collective surveillance, and perceived safety.

Morphological Design Guidelines: Mandate compactness ratios, minimum communal spaces, and integrated buffer systems for all rural housing schemes.

Participatory Planning: Use community mapping, PRA tools, and local spatial knowledge to integrate traditional coexistence wisdom into contemporary design.

Retrofitting Existing Settlements: Improve visual connectivity, create communal nodes, and restore ecological buffers in dispersed villages.

Such a policy not only addresses conflict mitigation but also rebuilds trust between communities and their landscapes. It reintroduces coexistence as a guiding principle of rural planning, aligning built form with ecological logic and local perception.

The challenge before us is not simply providing housing, but designing for coexistence ensuring that homes and habitats reinforce rather than undermine one another. Ancient Sri Lankan villages achieved this balance through spatial intelligence, ecological humility, and community ethics. Modern planning can reclaim this wisdom by embedding it within housing policy, data driven guidelines, and participatory design processes.

As Sri Lanka confronts expanding rural development and escalating HEC, planning for contested landscapes must become a national priority. Integrating ecological knowledge, traditional settlement logics, and contemporary spatial planning can transform zones of fear into landscapes of resilience.

Ultimately, the question is not whether humans and elephants can share space; they always have. The real question is whether our planning systems and spatial imaginations can sustain that shared space into the future.

Author's Note:

This article presents an introductory literature based reflection emerging from the ongoing research conducted by the SCREEN Research Team. The broader study focuses on developing planning guidelines and design frameworks that address Human Elephant Conflict (HEC) through spatial, ecological, and social analysis. The ideas discussed here are part of an evolving body of research and are intended to initiate dialogue on the urgent need for housing and planning policies that enable coexistence within these fragile landscapes. Readers and practitioners are encouraged to join the conversation, share insights, and contribute to building a collective understanding of how planning can foster harmony between people, wildlife, and place.

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