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Editorial: Land-use management in peri-urban areas

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Editorial on the Research Topic
[Land-use management in peri-urban areas](#)

Introduction

Peri-urban areas represent a complex and contested interface between urban and rural space, where transitions in land use occur under socio-ecological tensions and governance challenges (Hutchings et al., 2022). As urban settlements expand and sprawl outward toward surrounding lands, managing transitional space is essential for achieving sustainability, resilience, and equity in development (Mulya et al., 2023). Despite increased attention in research and policy discussions, peri-urban land-use management remains a complex domain in both theory and practice (Kwadwo Anane and Cobbinah, 2022). The disconnect between theory and practice is a testament to the necessity for innovative, context-dependent strategies for managing peri-urban land use, for addressing unique problems and competing demands, and generating integrated, sustainable solutions (Buxton, 2022).

Peri-urban land-use management is not an urban or extended urban or rural plan but a unique domain requiring context-dependent and adapted frameworks for analysis and governance (Mortoja et al., 2020; Ahani and Dadashpoor, 2021). These transitional zones, characterized by their hybridity and rapid transformation, require strategies for managing it in recognition of unique socio-ecological dynamics, competing demands for land use, and multiple stakeholder relationships (Tacoli, 1997; Kwadwo Anane and Cobbinah, 2022). Managing these areas involves balancing urban encroachment, farm preservation, conservation, and infrastructure expansion while addressing fragmented governance structures (Hersperger et al., 2020; Salem et al., 2020).

The articles featured in this Research Topic contribute to key discourses, including:

- Integrated strategies for delineating and analyzing peri-urban areas across different geographic and socio-economic contexts.
- The role played by peri-urban landscapes in achieving sustainability and regenerative urban systems.
- Interlinkages between resource efficiency, environmental sustainability, and urban expansion.
- Adaptive governance frameworks for addressing unique problems in peri-urban areas, particularly in the Global South.

Contributions to the Research Topic

This Research Topic includes five papers presenting diverse perspectives on conceptualizing and engaging with peri-urban landscapes. Figure 1 provides an overview of peri-urban land use management challenges, illustrating the interconnections among the various themes explored in this Research Topic.

Readers are encouraged to consult the full articles for detailed discussions. The key contributions are summarized as follows:

In “Where is the peri-urban? Mapping the areas ‘around, beyond and between,’” Ravetz and Sahana establish a methodological framework for research and policy in the peri-urban. The authors’ research demonstrates an integrated solution to complex systems-based thinking, and a functional methodology for identifying peri-urban areas through population density and “functional urban area” data. Through analysis of 21 cities worldwide, the authors offer a scalable methodology as a precursor to systematic peri-urban classification and planning.

Referring to the literature on sustainability, Butt’s article, “Sustainable, resilient, regenerative? The potential of Melbourne’s peri-urban region”, discusses the possibility of peri-urban areas to increase socio-ecological resilience. Based on the case of Melbourne, the research condemns dominant policy paradigms and advocates a move toward regenerative urban systems that integrate community participation and multifunctional land use.

In “Rural homestead reform in China: unveiling urbanization dynamics and lessons for sustainable development”, Yahui et al. discuss a comparative policy analysis of peri-urban land-use policies. The study compares China’s rural homestead reforms with cases from the United States and India, emphasizing the requirement for context-dependent policies that integrate urban development and rural sustainability. Their findings emphasize the application of market mechanisms, household decision-making, and capacity-building to support successful land-use transitions.

Ugalde-Monzalvo’s paper, “Sustainable urban growth patterns based on environmental fitness”, offers an alternative method for analyzing urban growth on the basis of environmental suitability. By organizing urban growth patterns into six typologies of sustainability, the study offers insights on resolving urbanization forces and environmental conservation, exploring the efficiency of resources and infrastructural planning within peri-urban environments.

Finally, Woiwode et al.’s “Identifying entry points for adaptive governance in peri-urban Chennai (India): a multi-dimensional, multi-level, and multi-scalar approach”, provides a governance-oriented perspective. The study highlights the necessity of adaptive governance interventions in addressing peri-urbanization’s socio-ecological uncertainties. In an examination of governance

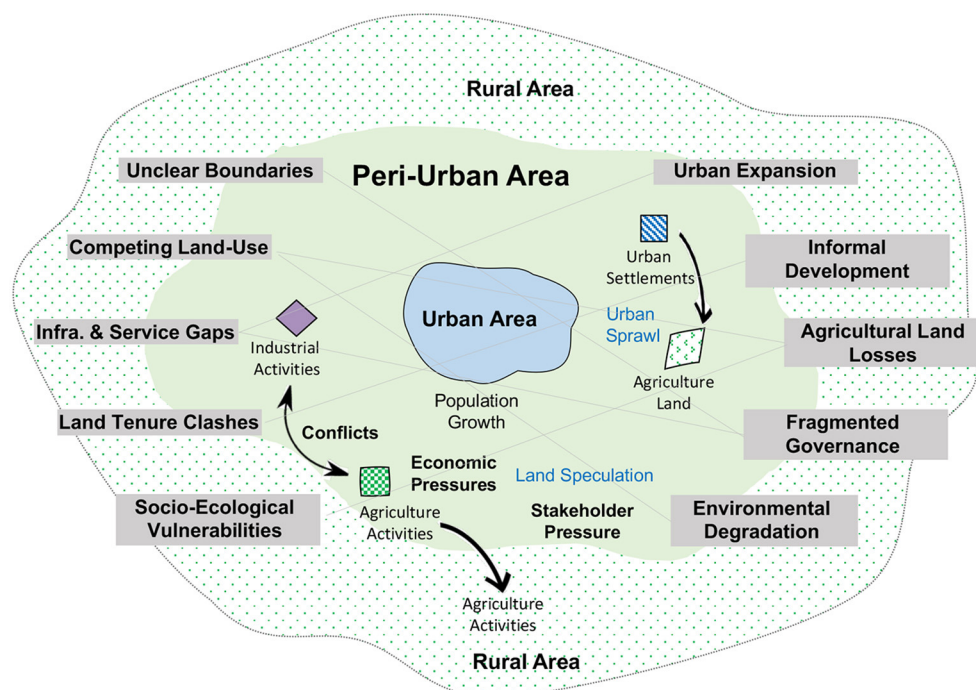


FIGURE 1
Overview of peri-urban land use management challenges.

in Chennai, the authors demonstrate how interventions that address water management and agroecology can enhance climate resilience. Their multi-scalar perspective makes contributions to policymakers who seek to address governance fragmentation in rapidly evolving peri-urban areas.

Broader implications and future directions

Together, these contributions advance the understanding of peri-urban land-use management by integrating conceptual, methodological, and policy-oriented perspectives. The key takeaways from this Research Topic emphasize the following needs:

- A clear methodology for defining and analyzing peri-urban areas.
- Policies to recognize and utilize the multifunctionality of peri-urban landscapes.
- A peri-urban land use management framework that incorporates land tenure dynamics, food-energy-water resource management, socio-economic mobility in peri-urban-rural linkages, and resilience to climate and economic change.
- Implementation of urban growth strategies aligned with environmental adaptation and resource efficiency principles.
- Adopting governance structures that are adaptive, participatory, and context-sensitive.

Looking ahead, future research should refine the classification of peri-urban typologies, investigate the relationship between governance and socio-ecological resilience, and create

decision-support tools to improve land-use management. As peri-urbanization continues to transform urban regions worldwide, the insights from this Research Topic offer a strong foundation for advancing sustainable and flexible land-use strategies.

Author contributions

MS: Project administration, Writing – original draft, Writing – review & editing. JR: Conceptualization, Writing – original draft, Writing – review & editing. PD: Writing – review & editing. SR: Writing – review & editing. MS: Writing – review & editing.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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