JOURNAL OF BUILDING AND LAND DEVELOPMENT (JBLD)

SPECIAL ISSUE IN COMMEMORATION OF ARU WEEK 2026: *Innovation and Knowledge Advancement in Smart Sustainable Cities and Integrated Development Systems*

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ABOUT THE JOURNAL

The **Journal of Building and Land Development (JBLD)** is a peer-reviewed multidisciplinary scholarly journal published by **Ardhi University**, dedicated to advancing knowledge, professional practice, innovation, and scholarly discourse across the broad domains of the built environment, land administration, infrastructure systems, environmental management, urban and regional planning, geospatial sciences, housing, valuation, construction management, disaster resilience, and sustainable development. The Journal serves as a platform for disseminating high-quality original research, technical papers, review articles, policy analyses, innovation outputs, and applied scholarly contributions relevant to Tanzania, Africa, and the global academic and professional community. This Special Issue has been published in commemoration of **ARU Week 2026**, a flagship institutional event for research dissemination, technological innovation showcase, and academic engagement at Ardhi University.

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PUBLICATION NOTE

All manuscripts published in this Special Issue underwent editorial screening and peer review in accordance with JBLD publication standards. Manuscripts accepted for publication were selected based on scholarly merit, relevance to the Special Issue theme, methodological rigor, originality, and contribution to knowledge.

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CHIEF EDITOR'S REMARKS

It is with great pleasure that I present this Special Issue of the **Journal of Building and Land Development (JBLD)**, published in commemoration of **ARU Week 2026**, Ardhi University's flagship institutional platform for showcasing scholarly excellence, technological innovation, applied research, and professional practice. This Special Issue represents a significant scholarly milestone in the continued growth of JBLD and reflects Ardhi University's enduring commitment to research excellence, multidisciplinary scholarship, knowledge dissemination, and innovation-led development. The theme of this Special Issue, **"Innovation and Knowledge Advancement in Smart Sustainable Cities and Integrated Development Systems,"** reflects the urgent need for integrated, evidence-based, and multidisciplinary approaches to addressing contemporary development challenges within the built and natural environments. The selected contributions illustrate the breadth of scholarship emerging from fields central to Ardhi University's academic mandate and demonstrate the transformative role of research and innovation in shaping sustainable futures.

This Special Issue presents seven peer-reviewed scholarly contributions spanning diverse but interconnected domains. The opening paper, **Assessment of Environmental Safeguard Integration in Land Tenure Regularization Using GIS Suitability Analysis and Ground Verification: Evidence from Mbarali District, Tanzania**, addresses the increasingly important intersection between land governance, environmental stewardship, and spatial decision-making. By integrating GIS-based suitability analysis with field verification, the study highlights the importance of incorporating environmental safeguards into land regularization processes to support sustainable land administration and planning. The second paper, **IoT-Based Real-Time Water Quality Monitoring System: Design, Development, and Deployment: A Case Study at Ardhi University, Tanzania**, presents a practical technological innovation in environmental monitoring and smart systems development. The

study demonstrates how Internet of Things (IoT) technologies can support real-time environmental data acquisition, decision support, and improved water resource management, contributing to the growing discourse on digital transformation and smart infrastructure systems.

The third contribution, **Smart Diet Diary: Design and Development of a Mobile Application for Child Nutrition Guidance in Tanzania**, extends the innovation agenda into digital public health and mobile technology applications. Although outside traditional built environment boundaries, the paper demonstrates the multidisciplinary nature of innovation and the potential for digital tools to address social development challenges through accessible, technology-driven interventions. The fourth paper, **Reframing Cost Information in EPC+F Road Projects in Tanzania: A Conceptual Review of Financial Risk Visibility and Infrastructure Bankability**, contributes to the important discourse on infrastructure financing, project governance, and financial risk management. By examining Engineering, Procurement, Construction and Financing (EPC+F) project structures, the study provides valuable conceptual insights into how improved cost transparency and risk visibility can enhance infrastructure bankability and investment confidence.

The fifth paper, **Assessment of Disaster Risk Preparedness and Response in Public Markets in Dar es Salaam City, Tanzania**, addresses a critical urban resilience challenge, focusing on preparedness, institutional capacity, emergency response systems, and vulnerability management in dense public commercial environments. The study reinforces the need for improved disaster risk governance and proactive resilience planning in rapidly growing urban centres. The sixth contribution, **Valorisation of Faecal Sludge-Derived Bio-Briquette Ash as a Potential Supplementary Cementitious Material for Sustainable Construction**, presents an innovative and highly relevant contribution at the intersection of sanitation management, waste valorisation, circular economy, and sustainable construction engineering. By exploring alternative construction material pathways from waste-derived resources, the study reflects the increasing importance of resource recovery and environmentally responsible engineering innovation.

The seventh paper, **Assessment of Urban Fire Risk Management in Dar es Salaam City**, complements the disaster resilience theme by examining emergency response capacity, fire risk governance, institutional preparedness, and operational challenges in urban fire management. The paper provides important evidence for strengthening urban emergency systems and resilience planning in rapidly urbanizing African cities. Collectively, these contributions demonstrate that innovation is multidimensional. It encompasses not only technological advancement, but also governance reform, institutional strengthening, digital transformation, sustainability transitions, infrastructure resilience, environmental stewardship, and evidence-based policy development.

This Special Issue further reflects the importance of interdisciplinary collaboration across academic units, research domains, and professional disciplines. The diversity of topics underscores Ardhi University's expanding research ecosystem and the growing importance of scholarly publishing as a vehicle for translating innovation into actionable knowledge. It is important to note that while this Special Issue presents manuscripts successfully processed within the ARU Week 2026 publication schedule, other additional manuscripts submitted under the Special Issue call remain under peer review and editorial processing. Upon satisfactory completion of the review process, eligible manuscripts will be considered for publication in subsequent regular issues of JBLD. Beyond this Special Issue, the Journal of

Building and Land Development continues to receive submissions for its regular publication issues. Members of academic staff, researchers, practitioners, and scholars are warmly encouraged to submit original scholarly contributions across the Journal's thematic scope.

I wish to express sincere appreciation to the **Office of the Deputy Vice Chancellor – Academic, Research and Consultancy (DVC-ARC)** for coordinating ARU Week 2026 and fostering a vibrant environment for scholarly engagement, innovation dissemination, and academic exchange. I also acknowledge the dedication of the editorial team, peer reviewers, authors, editorial assistants, and production staff whose professional commitment made this publication possible. For JBLD, this Special Issue marks an important milestone in the Journal's growth, visibility, and academic maturation. It reinforces the Journal's role as a credible platform for disseminating impactful multidisciplinary scholarship relevant to Tanzania, Africa, and the wider global community. It is my sincere hope that the contributions contained in this Special Issue will stimulate further research, inspire innovation, inform policy and professional practice, and contribute meaningfully to sustainable and resilient development.

Prof. Mengiseny Kaseva
Chief Editor
Journal of Building and Land Development (JBLD)
Ardhi University

SPECIAL ISSUE EDITORIAL NOTE

This Special Issue was prepared as part of the scholarly publication activities commemorating **ARU Week 2026**. All manuscripts published herein underwent editorial review and peer assessment in accordance with JBLD academic standards. The opinions expressed in the individual papers are those of the respective authors and do not necessarily reflect the views of Ardhi University, JBLD, or the editorial team.

CALL FOR FUTURE SUBMISSIONS

The **Journal of Building and Land Development (JBLD)** welcomes submissions for its regular publication issues.
We invite:

- academic staff;
- researchers;
- postgraduate scholars;
- practitioners;
- policy analysts;
- multidisciplinary innovators.

Submission categories include:

- original research articles;
- review papers;
- technical notes;
- policy analyses;
- innovation case studies.

JBLD remains committed to advancing rigorous scholarship, innovation dissemination, and professional knowledge exchange across the built environment and related development disciplines.