INTERNATIONAL JOURNAL OF RESEARCH AND INNOVATION IN SOCIAL SCIENCE (IJRISS)
ISSN No. 2454-6186 | DOI: 10.47772/IJRISS | Volume X Issue XXIII May 2026
The International Conference on Real Estate Urbanisation 2025 (iCRESU 2025)

Comparison of Land Cost Drivers in Sarawak Housing Development: A Preliminary Review

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DOI: https://doi.org/10.47772/IJRISS.2026.10230006

Received: 08 May 2026; Accepted: 14 May 2026; Published: 28 May 2026

ABSTRACT

The persistent escalation of land costs in Sarawak's principal urban centres Sibu, Kuching, and Miri has become a major barrier to delivering affordable housing, as land acquisition and associated costs typically account for 18–20% of the gross development cost (GDC), significantly influencing project feasibility and pricing. Sarawak's land matters, governed by the Sarawak Land Code, are further complicated by native customary rights (NCR), complex approval processes, and overlapping jurisdiction between the State Planning Authority and local authorities, resulting in higher transaction costs, longer development timelines, and greater financial uncertainty compared to the more streamlined National Land Code processes in Peninsular Malaysia. This research reviews and compares land cost drivers in Sarawak's housing sector, focusing on identifying and benchmarking elemental cost components and procedural requirements unique to Sarawak. It emphasizes the importance of robust feasibility studies to accurately forecast costs, manage risks, and ensure project viability in a complex regulatory environment. Using qualitative methods, including document analysis, the study identifies primary land cost drivers such as acquisition premiums, compliance and conversion costs, site preparation, and costs related to navigating NCR and local authority requirements. These components are benchmarked against Peninsular Malaysia, where clearer procedures and greater regulatory efficiency typically lead to lower transaction costs. Expected outcomes include detailed guidelines for stakeholders to manage land cost drivers, actionable recommendations for policy reform, and clearer insights into the monetary and procedural bottlenecks unique to Sarawak. By providing policymakers, developers, and local authorities with a practical decision-making framework, the research aims to enhance the accuracy of feasibility studies, support cost-effective project delivery, and ultimately improve housing affordability in Sarawak's urban centres, with significant implications for industry practice and policy.

Keywords: Land Cost Drivers, Sarawak, Housing Development, Feasibility Study, Land Administration.

INTRODUCTION

Housing affordability in Sarawak's urban centres Sibu, Kuching, and Miri has become a critical socio-economic issue, with average house prices consistently exceeding the financial reach of most households. The National Property Information Centre (NAPIC) reported that the average house price in Sarawak reached RM493,799 in Q3 2022 (National Property Information Centre (NAPIC,) 2022). and the Khazanah Research Institute (2021) categorised the state's housing market as severely unaffordable for most residents. This crisis is primarily rooted in the complex interplay of development cost components, where land cost including acquisition, premiums, compliance, and transaction activities account for an estimated 18–20% of the gross development cost (GDC) (Construction Industry Development Board Malaysia (CIDB), 2022).

Given these challenges, the preparation of comprehensive feasibility studies is indispensable for developers, policymakers, and financiers. Such studies are crucial for informed investment decisions, risk assessment, and resource allocation. In Sarawak, the need for robust feasibility analysis is heightened by the state's unique land tenure system, governed by the Sarawak Land Code and the widespread presence of native customary rights (NCR), which introduce substantial uncertainty, procedural delays, and additional costs (Choon et al., 2023). If not properly anticipated, these factors can undermine project viability and worsen affordability challenges.

Hence, the preparation of the comprehensive and robust feasibility studies should capture all the economic activities within the land and housing development process. The process of housing development in Sarawak typically involves several key stages: land acquisition, land use conversion, site preparation, compliance with planning and environmental regulations, and securing approvals from multiple authorities. Each stage is shaped by the regulatory framework and local context, particularly the prevalence of NCR land and overlapping jurisdictional requirements, where it is important to note that these regulatory and procedural complexities distinguish Sarawak from Peninsular Malaysia, where land administration is generally more standardised and streamlined under the National Land Code.

Sarawak's land administration differs markedly from that of Peninsular Malaysia due to several distinctive features. The Sarawak Land Code (1958) and its amendments set out unique procedures for land classification, subdivision, and development control. The widespread presence of Native Customary Rights (NCR) land necessitates negotiation with indigenous communities, resulting in lengthier acquisition timelines and elevated transaction costs. The approval process is fragmented and often overlaps, involving the State Planning Authority, local authorities, and the Land and Survey Department, which creates procedural bottlenecks and drives up compliance costs (Suliman et al., 2021). Furthermore, additional requirements such as land use conversion, payment of premiums, and infrastructure provision significantly increase overall land-related expenses (Alamgir et al., 2020).

These differences result in longer project timelines, higher holding costs, and greater financial risk for developers in Sarawak compared to their counterparts in Peninsular Malaysia. A more detailed comparison of the cost drivers between Sarawak and Peninsular Malaysia is outlined in the following Table 1:

Table 1: Comparison of Cost Drivers between Sarawak and Peninsular Malaysia

Cost Driver	**Sarawak (Urban Centres)**	**Peninsular Malaysia**	**Research Author(s)**
Land Acquisition Premiums	High, due to NCR and state-specific requirements	Lower, standardised under National Land Code	(King et al., n.d.,2017)
Approval Process	Fragmented, multiple authorities, longer timelines	Streamlined, clearer regulatory pathways	(Suliman et al., 2021)
Compliance & Conversion	Complex, frequent need for negotiation and conversion costs	More predictable, lower compliance costs	(Manaf et al., 2019)
Site Preparation	Often complicated by NCR and infrastructure gaps	Generally, more straightforward	(Chao & Lin, 2024)
Transaction Costs	Elevated due to legal and procedural uncertainties	Lower, due to established procedures	(Li et al., 2015)

Thus, the above preliminary findings trigger the motivation to further delve into the cost components of land cost drivers in Sarawak's housing development, with a focus on identifying, analysing, and benchmarking the elemental cost components and procedural requirements unique to Sarawak, as opposed to Peninsular Malaysia.

This research is structured around three primary objectives: analyzing the key land cost drivers in housing development in Sarawak, comparing the impact of these drivers on housing projects, and producing a guideline to assist in determining land cost drivers in the region. To achieve these aims, the study employs a qualitative approach that includes in-depth interviews with industry experts, government officials, and community leaders, alongside document analysis of planning guidelines, case studies, and regulatory frameworks. This methodology enables a nuanced understanding of both the procedural and monetary dimensions that influence land costs in Sarawak's housing development sector.

RESEARCH METHODOLOGY

This study adopted a qualitative approach through a Systematic Literature Review (SLR) to examine and compare the key land cost drivers influencing housing development in Sarawak. The review focused on identifying monetary, regulatory, and procedural factors affecting land-related expenditure, project feasibility, and housing affordability within the Sarawak development context (CIDB, 2022; Choon et al., 2023).

Relevant literature was collected from Scopus and Web of Science (WoS) databases, covering publications between 2021 and 2025. The review included journal articles, conference proceedings, government reports, and policy-related publications concerning land administration, housing development, Native Customary Rights (NCR), and feasibility studies in both Sarawak and Peninsular Malaysia. Keywords such as "land cost drivers", "housing development", "Sarawak", "NCR", and "housing affordability" were applied using Boolean search techniques (Suliman et al., 2021; Manaf et al., 2019).

The selected literature was analysed using qualitative thematic analysis to identify recurring themes related to land acquisition premiums, NCR complexities, compliance costs, infrastructure provision, approval procedures, and macroeconomic influences affecting housing affordability and development feasibility (Abram et al., 2022; Ismail et al., 2025; Kuok et al., 2025). Comparative analysis was also conducted to examine the differences between Sarawak's land governance framework under the Sarawak Land Code and Peninsular Malaysia's more standardised administration system under the National Land Code and One Stop Centre (OSC) platform (Suliman et al., 2021; Pinjaman et al., 2022).

To improve transparency and reliability, findings from multiple sources were cross-compared and synthesised to identify consistent patterns and relationships among the identified land cost drivers. In addition, bibliometric mapping using VOSviewer was employed to visualise keyword co-occurrence, thematic relationships, and research trends within the selected literature (Wong et al., 2022). Nevertheless, the study is limited by its reliance on secondary data and qualitative document analysis. Therefore, future research is recommended to incorporate primary empirical data, such as interviews and case studies involving developers, policymakers, and land administrators, to strengthen empirical validation and contextual understanding.

Systematic Literature Review Findings

The primary aim of this research is to identify, compare, and provide guidelines for managing land cost drivers in Sarawak's housing development. This section presents the findings of the systematic literature review (SLR), which is designed to consolidate and interpret existing scholarly work relevant to land cost factors, their interrelationships, and potential strategies for effective management. The results section serves as the bridge between the raw data obtained from literature searches and the subsequent discussion, offering a transparent and structured presentation of bibliometric patterns, thematic findings, and synthesized insights that directly align with the research objectives.

The findings are structured in three key parts. First, a bibliometric mapping and trend analysis is conducted using VOSviewer, visually representing the intellectual structure, citation networks, and keyword co-occurrences in the selected literature. Second, a thematic analysis is presented, organized around the specific research objectives, enabling a focused examination of patterns, themes, and critical perspectives emerging from the reviewed studies. Finally, a synthesis of the findings is provided, integrating both bibliometric and thematic insights into practical guidelines for managing land cost drivers in Sarawak's housing development context. This structured approach ensures clarity, traceability, and relevance in addressing the research aim.

Bibliometric Analysis with Visualisation of Similarities (VOSviewer)

Bibliometric analysis is a type of quantitative research that can evaluate the growth, structure and patterns of scholarly literature in terms who publishes, what keywords they refer to, who cites them and who co-authors

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with them. Generally, bibliometric methods were performed to systematically map and assess research resources in relation with the research topic of a study. In order to create maps reflecting the connections, produced between authors, keywords, and thematic clusters, VOSviewer, which is a commonly known program to construct and visualize bibliometric networks, was utilized. The VOS technique of its visualisation allows distinguishing the central research themes, emerging trends, and collaboration patterns due to the proximity of items determined by the strength of co-occurrence. Not only can this approach improve the knowledge of the intellectual structure of the field, but it can also serve as a basis on which gaps and future research directions could be determined.

Data Summary

The Systematic Literature Review (SLR) used two main scholarly databases, including Scopus and web of Science (WoS), to capture between 2021 and 2025 to cover all the research undertaken during the housing development process in Sarawak on land costs drivers. The searching technique used was based on keywords and/or Boolean operators to complete the search, and the results were narrowed down with the help of pre-determined inclusion or exclusion criteria, the studies were to have majored on the housing development, to have discussed the cost drivers including land factors and be said to be published in peer-reviewed journals or published in proceedings of a conference, and were written in English. The excluded studies were non-relevant disciplines, redundancies and grey literatures. The preliminary search identified 312 records that were filtered to identify the ones that were related to the present study according to the titles, abstracts, and full-text reviewing. Following the rule of 74 records excluded on the grounds of irrelevance, 28 based on being duplicates and 200 records after full-text evaluation. At the end of the search process, 10 studies were left, and their inclusion was considered in the review as to meet the eligibility criteria.

Bibliometric Networks

The bibliometric review indicated a few interconnected patterns of research. The dominance of the keywords presented led to predominant themes of land acquisition, native customary rights, affordability of housing in cities and urban development, and infrastructure cost because this became the areas of focus in the literature. Co-authorship maps showed that there were clearly defined research groups, but it was found that the contributions made by the scholars like Wong S.Y, Kuok K.K and Liat Choon T were also significant which is actually the measure of collaborative networks which bring up a change in the field. The mapping of citation and co-citation networks also helped to indicate the presence of the most influential articles and the structural interrelations between them, demonstrating the key role of some seminal works in the shaping discourse and influencing the further studies in the sphere of land policy and urban development (Wong et al., 2022).

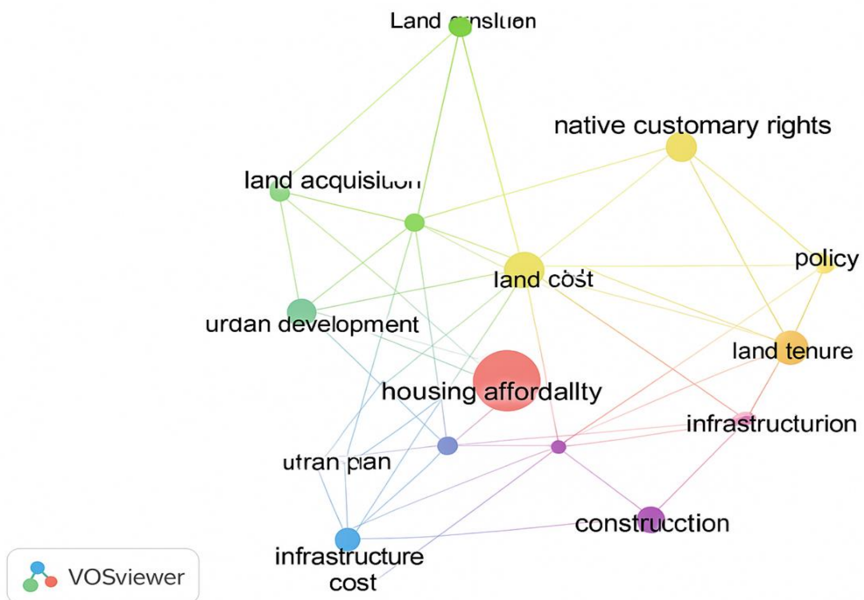

Figure 1: Bibliometric Analysis with keywords land acquisition and cost driver (source: Bibliometric Analysis through VOSviewer software by authors)

Temporal Trends

The study of land acquisition and housing issues has changed ever since the year 2000. Initial works were mostly concerned with legal and policy bases of land ownership and transfer and patterns of property rights. In a long-term perspective, the development of the bibliometric network map demonstrates that the interest in the field, which originally focused on policymaking on Native Customary Rights (NCR), shifted toward academic interest in this specific field of policymaking. The network map reveals high related links between the keywords like land ownership, customary rights, policymaking, and housing, which means the existence of an interdisciplinary conversation on legal, social and economic sides. Since the middle of 2010's, the map demonstrates the emergence of a cluster connecting the three concepts of infrastructure, housing cost modelling, and urban planning, which also indicates a shift towards the data-driven method in city planning. In more recent years, sustainable housing, environmental impact and social inclusion are keywords that represent a newer, more interrelated cluster a more holistic, long-term view in research. Nevertheless, the few links between literature on sustainability and literature covering indigenous land rights stand out to indicate a gap in research there are few combined studies that will redly bridge the gap between sustainability of environment and culturally sensitive issues placed on land policies and housing, which is an area still worthy to be explored in future studies.

Thematic Analysis

This study used thematic analysis to identify, analyze, and interpret patterns within the gathered literature on a systematic basis, which helped better understand the existing issues and any emerging trends. The choice of approach was informed by the flexibility that it offers to manage the qualitative data and the possibility to incorporate various opinions of different scholars in various studies. With the coding of the data on core themes like legal and policy frameworks, indigenous land rights, modelling of infrastructure and housing costs, sustainable housing structures, the analysis was able to encompass the historical development globally as well as the contemporary area of research interest within the study area. The coding was carried out through recurrent reading of nodes, labeling of keywords, and placing them together with the clusters of topics that helped establish the conceptual connections and determine areas that have not been sufficiently probed, that is identify the potential research gaps.

Key Land Cost Drivers in Housing Development in Sarawak

The land acquisition premiums have been a key cost driver in the building of houses in Sarawak mainly because of the discoursive negotiations of the Native Customary Rights (NCR) land. Premiums paid to the landowners are sometimes settled after long negotiations, causing an increase in the final premium levels that can directly affect the viability of projects (Liat Choon et al., 2023; Wong et al., 2022). Besides, costs of regulation and compliance create additional weight on the company as several agency approvals, conversion charges on land and delays in the process create an increase in holding costs on the side of developers (Samsi et al., 2024). Although these layers of regulation are set to help achieve a sustainable use of land, such layers can lengthen the project schedule and raise capital needs of projects.

Another critical consideration is the cost of infrastructure and the preparation of the site where the construction site is in rural or the urban fringe areas, less existing infrastructure implicates large upfront investment (Abram et al., 2022; Kuok et al., 2025). Lack of normal utilities, road infrastructure and drainage line necessitate the high installation and connection costs to be incurred by the developers. Land prices are further impacted over the external factors in the market like the variability in the foreign investment streams and macroeconomic a trend among others (Ismail et al., 2025; Cheng & Teck Ling, 2024). The combination of these forces of cost drives it in such a way that affordable housing delivery becomes a difficult environment, which warrants strategic planning and policy intervention to sustain development in the long run. The detailed analysis of key land cost drivers in Sarawak housing development is outlined in the following Table 1:

Table 1 Analysis of Key Land Cost Drivers in Housing Development in Sarawak

Research Author(s)	Approach	Technique	Analysis	Key Insight
Liat Choon et al. (2023); Wong et al. (2022)	Case study on NCR land disputes	Qualitative interviews & legal document review	Identified prolonged negotiation processes and premium escalation	NCR negotiations significantly inflate acquisition costs
Samsi et al. (2024)	Regulatory process mapping	Policy analysis & stakeholder consultation	Examined impact of multi-agency approvals and conversion fees	Complex compliance procedures increase holding costs
Abram et al. (2022); Kuok et al. (2025)	Field survey in rural–urban fringe	Cost assessment & GIS mapping	Assessed infrastructure gaps and site preparation expenses	Limited infrastructure drives up development costs
Ismail et al. (2025)	Macroeconomic trend analysis	Econometric modelling	Linked foreign investment patterns to land price fluctuations	External capital flows affect housing affordability
Cheng & Teck Ling (2024)	Market dynamics study	Comparative market analysis	Tracked global–local market linkages	Global trends influence local land valuation

Cost Implications of Land Cost Drivers on Housing Development in Sarawak

The major determinants of land costs in Sarawak development of housing are closely associated with the current crisis in housing affordability in the region because the Khazanah research institute has been categorizing the market in several regions as severely unaffordable. The empirical evidence indicates that the complexity of regulations, lengthy Native Customary Rights (NCR) discussions, high rates of compliance, and property premiums contribute immensely to increase the total price of land-up to 30 or 40 percent of total housing development in some instances (Wong et al., 2022; Samsi et al., 2024). The developments of low-cost housing, which cater to low-income earners, are also limited by these escalating costs, and surveys by Sepawie et al. (2022) and Kuok et al. (2025) reflect low satisfaction levels by the inhabitants and failure to be affordable to most households. In addition to immediate expense pressures, bureaucratic delays and the red-tapism in the approval's mechanism translate to holding costs which postpone delivery of the projects thus reducing affordability of the projects to the developers.

The issue is enhanced by market factors which, through land speculation and foreign investment also contribute to great fluctuations in the land market that hurts long-term housing strategy (Ismail et al., 2025). Mega-projects whose backbones are related to infrastructure include the Pan Borneo Highway, resulting in massive price booms in the neighboring environment and altering urbanisation pathways and further straining affordability issues (Abram et al., 2022). A combination of these interrelated drivers: regulatory inefficiency, speculative pressures, foreign capital and influence and price increases due to infrastructure led to a destabilisation of the housing market and illustrates immense policy feedback required to streamline acquisition of lands, control speculation and incorporate affordability measures into urban growth plans. Table 2 shows a detailed discussion of these impacts.

Table 2 Analysis of the Impacts of Land Cost Drivers in Sarawak's Housing Development

Research Author(s)	Approach	Technique	Analysis	Key Insight
Sepawie et al. (2022); Kuok et al. (2025)	Empirical housing satisfaction study	Surveys and statistical analysis	Low satisfaction and high cost burdens in low-cost housing	Land cost drivers severely impede housing affordability
Wong et al. (2022); Samsi et	Regulatory process impact	Case mapping & stakeholder	Documented procedural delays and rising holding	Bureaucratic inefficiencies

al. (2024)	study	interviews	costs	undermine project viability
Ismail et al. (2025)	Market stability evaluation	Econometric analysis	Noted links between speculative holding, foreign investment, and land prices	External factors intensify land price volatility
Abram et al. (2022)	Urbanisation–infrastructure linkage	Spatial analysis & field observation	Observed price increases in zones adjacent to major infrastructure	Urbanisation pressures compound affordability challenges

Comparison of Sarawak and Peninsular

This is because the housing development in Sarawak as compared to the Peninsular Malaysia has a distinct difference because land tenure systems, the regulatory systems as well as the readiness of infrastructures are different. The issue of Native Customary Rights (NCR) land in Sarawak makes the process of governance and negotiations specific and contributes to a long acquisition process and acquisition of higher costs that may result in up to 30-40 percent of the total housing development expenditures (Wong et al., 2022; Liat Choon et al., 2023). The geographical and physical infrastructural limitations of the rural and semi-urban world only increase costs, overcomplicating the possibility of large-scale affordable housing projects (Yee Wong et al., 2024; Wu et al., 2019). Conversely, there is a more standardized land administration system and more connected infrastructure networks that speed up the development processes in Peninsular Malaysia (Pinjaman et al., 2022). The two areas have affordability problems, however, and several urban markets in Malaysia are listed in categories of severe unaffordability by the Khazanah Research Institute (Azmi & Bujang, 2021; Bamgbade, et al., 2024). Although the problems that Sarawak is facing are deeply situated in land governance and physical access there is the affordability gap in Peninsular Malaysia which is more related to market demand, speculation and macroeconomics (Cheng & Teck Ling, 2024).

Regardless of these contrasts, there are similarities between both regions as related to issues of structural challenges concerning provision of affordable housing on a larger scale. The literature points out that the low-cost housing in Sarawak lacks satisfaction due to high land premiums and compliance costs, especially in NCR-related projects (Sepawie et al., 2022; Kuok et al., 2025; Jamil, 2025), and Peninsular Malaysia has an issue with affordability because it is worsened by the lack of land in urban centres, run off land, and increased speculative investments and the development of higher-end projects at the expense of social housing (Junaidi et al., 2023; Ismail et al., Both infrastructure megaprojects and investments in urban transit dense expansion, such as the Pan Borneo Highway in Sarawak or a similar investment in expanding Kuala Lumpur, have been found to drive up land prices in the surrounding environment and will likely fail to align to affordability housing aspirations where the urbanisation pattern fails to be infected by the low-cost housing purposes (Abram et al., 2022; Shafii et al., 2025; Durin et al.,2024)). Finally, whereas the issue Peninsular Malaysia must address is the balance between urban development and equitable access to housing, Sarawak is faced with the challenge of removing governance, regulatory and infrastructural bottlenecks to make land more walkable and affordable to support sustainable housing development.

Table 3 Analysis of Research Approaches for Determining Land Cost Drivers

Step	Research Author	Approach	Technique	Analysis
Step 1 – Identification of Cost Components	Ariff et al. (2021)	Comparative cost analysis	Review of acquisition premiums, compliance costs, and infrastructure provisions	Highlights primary financial drivers affecting land acquisition and development
Step 2 – Regulatory	Ariff et al.	Institutional	Identification of	Reveals bottlenecks in

Mapping	(2021)	mapping	agencies, approval timelines, NCR processes	administrative procedures
Step 3 – Cost Benchmarking	Ariff et al. (2021)	Cross-regional benchmarking	Comparison between Sarawak and Peninsular Malaysia	Provides context for regional cost variations
Step 4 – Risk Assessment	Shafii et al. (2025)	Risk-based feasibility analysis	Integration of uncertainty into project planning	Enhances cost predictability and investment confidence
Step 5 – Policy & Practice Recommendations	Ariff et al. (2021); Shafii et al. (2025)	Policy review and reform proposals	Development of streamlined approvals, governance reforms, and cost-sharing models	Offers actionable solutions to reduce cost burdens and improve efficiency

CONCLUSION

The establishment of land cost drivers in the housing development in Sarawak demonstrates that acquisition premiums, compliance costs, infrastructure provision, and external market pressures are some key factors that define the feasibility of the project. With the help of the regulatory mapping involved, the identification process allows developers to foresee financial and administrative challenges, especially regarding the processes of the Native Customary Rights (NCR) lands. Comparing the state with Peninsular Malaysia is also informative, as it indicates the regional comparative advantages, as well as limitations and peculiarities in cost structures that should also be tackled in the efforts to attract investment.

Moreover, the risk assessment in feasibility studies will facilitate active management of such uncertainties and minimize the chances of unexpected costs. Recommendations on approaches involving simplification of approval procedures, changes in the governance structure of NCRs, and models of infrastructure cost-sharing offer effective solutions to lessen the burdens of costs and promote the development of a sustainable housing industry. Concerted efforts to curb the above cost drivers will not only enhance the viability of the project but will also lead to the balanced development across the regions and increased affordability of housing in Sarawak.

ACKNOWLEDGEMENT

The authors wish to thank those who helped in facilitating and assisting this research. This research is funded by Jabatan Tanah dan Survei Sarawak. (R.J130000.7352.1R068)

REFERENCES

1. Alamgir, M., Campbell, M. J., Sloan, S., Engert, J., Word, J., & Laurance, W. F. (2020). Emerging challenges for sustainable development and forest conservation in Sarawak, Borneo. PLoS ONE, 15(3). https://doi.org/10.1371/journal.pone.0229614
2. Chao, J. C., & Lin, J. Y. (2024). Cost-Benefit Analysis of Urban Green Infrastructures: A Case Study of the LiuChuan River Corridor, Taichung City, from Linsenliu Bridge to Minquanliu Bridge. E3S Web of Conferences, 530. https://doi.org/10.1051/e3sconf/202453004004
3. Choon, T. L., Liang, T. M., Seng, L. kam, Vern, T. W., Ujang, M. U. bin, Chin, T. A., Azri, N. S. binti, & Kathitasapathy, S. A. L. (2023). Towards “Good” Native Land Governance: An Evaluation in Sarawak, Malaysia. International Indigenous Policy Journal, 14(1). https://doi.org/10.18584/iipj.2023.14.1.13873
4. King, D. E., Jensen, J. G. K., García, M., Supervised, P., Birch-Thomsen, T., & Gausset, Q. (n.d.). Dissonances in development: Effects on land tenure security in rural Sarawak.

5. Li, H., Arditi, D., & Wang, Z. (2015). Determinants of transaction costs in construction projects. Journal of Civil Engineering and Management, 21(5), 548–558. https://doi.org/10.3846/13923730.2014.897973
6. Manaf, A. A., Ramli, Z., Sum, S. M., Saad, S., & Omar, I. (2019). Native customary land and ownership disputes among owners. International Journal of Advanced and Applied Sciences, 6(11), 81–91. https://doi.org/10.21833/ijaas.2019.11.011
7. Pinjaman, S. Bin, Aralas, S., & Nipo, D. T. (2022a). The Role of Demography, Geographical Constraints, and Land Regulations on House Price in Malaysia. Business and Economic Research, 12(1), 62. https://doi.org/10.5296/ber.v12i1.19475
8. Abram, N. K., Lim, H. Y., Ng, C. K. C., Yorath, S., Razi, M. H. M., Ong, C. G. S., ... & Wilson, K. B. (2022). The socio-economic and cultural impacts of the Pan Borneo Highway on Indigenous and local communities in Sabah, Malaysian Borneo. PLoS ONE, 17(6), e0269890. https://doi.org/10.1371/journal.pone.0269890
9. Choon, T. L., Liang, T. M., Seng, L. K., Vern, T. W., Ujang, M. U. B., Chin, T. A., Azri, N. S., & Kathitasapathy, S. A. L. (2023). Towards “Good” Native Land Governance: An evaluation in Sarawak, Malaysia. The International Indigenous Policy Journal, 14(1). https://doi.org/10.18584/iipj.2023.14.1.13873
10. Construction Industry Development Board Malaysia (CIDB). (2022). Construction cost and development trends in Malaysia. CIDB Malaysia.
11. Ismail, N. H., Karim, M. Z. A., & Bao, H. X. (2025). Foreign investment and housing market stability in developing economies: Empirical evidence from Malaysia. Journal of Risk and Financial Management, 18(4), 187. https://doi.org/10.3390/jrfm18040187
12. Kuok, K. K., Chiu, P. C., Mersal, M. E., Rahman, M. R., & Said, K. A. M. (2025). Residential satisfaction and living experience in low-cost housing within tropical climates: A case study of Kuching, Sarawak, Malaysia. Journal of Housing and the Built Environment, 1–16.
13. Suliman, S., Samsudin, S., & Ahmad, M. H. (2021). Decision making principles in land development approval. Journal of the Malaysian Institute of Planners, 19.
14. Wong, S. Y., Low, W. W., Wong, K. S., & Kan, F. K. (2022). Sustainable rural housing development in Sarawak: A preliminary conceptual framework. IOP Conference Series: Earth and Environmental Science, 1067(1), 012078. https://doi.org/10.1088/1755-1315/1067/1/012078