Full paper

International Journal of Real Estate Studies

INTREST

A Preliminary Review of Housing Development Economics in Sarawak: Demystifying the Development Cost Components and Transaction Costs

Fara Diva Mustapa[1]*, Muzani Mustapa[1], Farah Nadiah Abdul Rahim[1], Farah Kamilah Zainuddin[1]

[1]*Department of Quantity Surveying, Faculty of Built Environment and Surveying, Universiti Teknologi Malaysia, Johor, Malaysia*

*Corresponding author's email: faradiva@utm.my

Article history: Received: *18 August 2025* Received in revised form: *25 December 2025*
Accepted: *29 December 2025* Published online: *31 December 2025*
DOI: https://doi.org/10.11113/intrest.v19n2.458

Abstract

Shelter is primarily characterized as a housing necessity, which is an essential component of Maslow's Hierarchy of Human Needs. Housing development levels have been suggested as a metric for a country's socioeconomic stability. Despite its significance for human well-being, there appears to be a problem with home affordability. This scenario is convinced to derive from the mismatch between market affordability and housing selling prices, especially in Malaysia. Residential Transaction Data reported by NAPIC in Q1 2024, 53.1% of consumers demand residential prices ranging below RM300,000. However, the average house prices recorded in Sarawak for Q4 2024 are RM415,936, with Sibu recording the highest house prices, followed by Miri and Kuching, respectively. Consequently, houses sold in Sarawak are categorized as severely unaffordable. Hence, this calls for research to debunk the total development costs for housing development in Sarawak, namely the land, hard, and soft costs. By doing so, it will reveal the composition of the cost components of housing development costs in Sarawak as well as the corresponding transaction costs. This will determine which housing development cost components with the highest costs within the three main components (land, hard and soft cost). The findings will be correlated with the costs of housing development in Peninsular Malaysia. By assessing the similarities and differences between Sarawak's and Peninsular Malaysia's cost components distribution, it will lead to producing evidence-based insights that are both diagnostic and prescriptive, derived from all the data gathered. Such information is crucial for assisting policymakers and regulatory bodies in assessing the impacts of the regulatory framework monetarily.

Keywords: Housing development cost components, Transaction costs, Development costs, Sarawak

1.0 INTRODUCTION

Shelter is still primarily characterized as a housing necessity, although identified by Maslow's Hierarchy of Human Needs in 1934 (Maslow, 1934) but still relevant until today. In addition to the basic human needs, a country's socioeconomic stability was measured according to the level of housing development within a country (Nasir et al., 2023; Zainuddin et al., 2022). Hence this reflects the importance of housing's ownership in all countries. Sadly, despite its significance to the human well-being, there appears to be a problem with home ownership. This scenario is convinced to derived from the mismatch between market affordability and housing selling prices, especially in Malaysia (Musaddad et al., 2023; Tobi et al., 2020; Ministry of Local Government Development, 2019). This is evident from the Residential Transaction Data reported by NAPIC in Q1 2024, where 53.1% of consumers demand residential prices ranging below RM 300,000 when houses are sold more than the RM 300,000.00 threshold. This is again supported by the report prepared by NAPIC, where the average house prices recorded in Sarawak for Q4 2024 are RM415,936, with Sibu recording the highest house prices, followed by Miri and Kuching, respectively. Due to this, Sarawak's housing market are categorized as severely unaffordable according to the median multiple formula which compares median house price to median household income (NAPIC, 2024; Ministry of Finance Malaysia, 2020).

Hence, this paper aims to debunk the unaffordable housing crisis in Sarawak by demystifying the total development cost components of housing developments in Sarawak by analyzing its three main cost components: hard costs, soft costs, and land costs, as well as the corresponding transaction costs. This research will itemize the cost components and compare the components with the Peninsula's perspective. By referring to the itemized cost components and distribution produced by the proposed cost model, the industry parties, legislators, and valuation authorities, such as the Land, Planning and Valuation Branch of *Jabatan Tanah dan Survei Sarawak*, *Jabatan Penilaian dan Perkhidmatan Harta* (JPPH) *Negeri Sarawak* and Ministry of Public Health, Housing and Local Government, will be able to assess the cost distributions in conventional housing developments with regards to its main components (land, hard, soft) and transaction costs, as well as assessing the monetary implications derived from the housing development regulation and economic activities. Consequently, a more efficient and coherent housing policies can be formed to successfully address the crisis of unaffordable housing in Sarawak.

■2.0 LITERATURE REVIEW

2.1 Housing Development Economics in Malaysia

Development economics is a critical aspect of the housing development process, encompassing various elements that contribute to the overall financial framework of a project (Hassan et al., 2021; Jetta et al., 2018; Osmadi, Kamal, Hassan, et al., 2015; Osmadi, Kamal, Kamal, et al., 2015). It provides a comprehensive overview of the expenses involved in bringing a residential project from conception to completion in order to assess project's viability. Hence, understanding these costs and the corresponding risks are essential for stakeholders as each category of cost contributes to the overall Gross Development Cost (GDC) and plays a crucial role in determining the project's profit and to facilitate informed decision-making throughout the development phases.

Previous research attempted to itemize and quantify the Malaysian housing development costs, but the results have varied because of demographic in sample size and methodology. According to Foo (2018; 2020) which analyzed the composition of the development costs for a single case study of a residential unit has found that the cost composition accounted for 45% hard costs, 15% soft costs, and 20% land costs, with 20% investor profits. This finding is crucial to reflect the monetary implications from the whole housing development process and activities.

First, Hard Costs which usually contribute the highest cost distribution represent the tangible expenses directly associated with the construction of the building. These costs typically include expenses related to materials, labor, and equipment necessary for the physical construction of the residential units. Examples of hard costs are the costs of concrete, steel, roofing, plumbing, electrical installations, and site preparation. Given that hard costs usually account for the largest share of GDC, effective management and control of these costs are vital to ensuring the project's overall budget is adhered to (Keup, 2022; Neenu, 2022; Construction Industry Development Board Malaysia, 2021; Ahmad, 2011).

Secondly is the Soft Costs, where in contrast, encompass indirect expenses that are not directly tied to the physical construction of the building but are nonetheless essential for the project's completion. These costs include fees for professional services such as architecture, engineering, legal consultations, and permits, as well as costs for insurance and project management. While soft costs typically represent a smaller portion of the GDC compared to hard costs, their cumulative effect can still be substantial and should not be disregard (Keup, 2022; Thompson, 2022; Ahmad, 2011).

Next, Land Costs refer to the expenses associated with acquiring the land on which the residential project will be developed. This category includes not only the purchase price of the land but also any costs related to site preparation, zoning, and environmental assessments. Given the fluctuations in real estate markets, land costs can vary significantly based on location as well as market demand and supply, often constituting a considerable share of the overall development costs (Saltler, 2020; Boon et al., 2018; Ahmad, 2011).

Lastly, the Profit Margin is an important metric that reflects the financial gain anticipated from the project once all costs are accounted for. While the specifics of profit margins can sometimes be classified as private and confidential, they are crucial for stakeholders to understand the financial viability of the project. The profit margin is influenced by the interplay between hard, soft, and land costs, as well as market conditions and demand for the completed residential units. Accurately estimating the profit margin is essential for attracting investment and ensuring the long-term success of the housing development (Ahmad, 2011).

The three main cost elements with their respective development cost components are further outlined comprehensively in Figure 1, showing its distribution with its yardstick, cost classification, and cost distribution:

Cost Component	Yardstick	Cost Elements	Average Cost Distribution
Land Cost	Area (Hectare / Acre)	Land Costs	20.00 %
Building Cost	Cost / m^2 (GFA)	Hard Costs	45.00 %
Infrastructure Cost			
• Site Preparation	Area (Hectare / Acre)		
• Earthwork	Area (Hectare / Acre)		
• Storm Water Drainage	Area (Hectare / Acre)		
• Sewerage Reticulation	Area (Hectare / Acre)		
• STP	Total Population (Population Equivalent)		
• Water Reticulation and Hydrants	Area (Hectare / Acre)		
• Road Works	Area (Hectare / Acre / m^2)		
• TNB Substations (Single and Double Chamber)	Number		
• External M&E Services	Area (Hectare / Acre)		
• Landscape	Area (Hectare / Acre)		
Preliminaries	5-10 % of Construction Costs		
Contingencies	5-10 % of Construction Costs		

Cost Component	Yardstick	Cost Elements	Average Cost Distribution
Other Pre-Development Costs		Soft Costs	15.00 %
• CIDB Levy	0.125 % of Construction Costs		
• Professional Fees	(8-10 %) + (5 % tax) of Construction Costs		
• Plan and Submission Fees - Planning - Building - Earthwork	 - Area (Hectare / Acre) - No / m^2 - Area (Hectare / Acre)		
• Capital Contribution - TNB - JBA (eg SYABAS) - IWK - JPS - TM	 - Area (Hectare / Acre) - Area (Hectare / Acre) - 1.65 % of income - Area (Hectare / Acre) - Area (Hectare / Acre / unit)		
• Survey Work - Boundary - Pre-Computation Plan - Subdivision / Strata	 - Area (Hectare / Acre) - Unit / m^2 - Unit / m^2		
• Soil Investigation	Number per Hectare / Acre		
• Developer's Overhead & Management Cost	1-2 % of Construction Costs		
• Sales & Marketing & Legal Fees	1 % of Income / Sales of Development		
Contingencies	5-10 % of Construction Costs		
Profit for Developer	10-20 % of Development Costs	Profit Marginal Costs	20.00 %
Total Property Development Cost Components			100.00 %

Figure 1 Typical Property Development Cost Components
(Source: Mustapa et al., 2023; Foo, 2018; 2020; Ahmad, 2011)

Yet, according to a more thorough analysis by a research grant that successfully examined 58 case studies, hard costs accounted for 67.24% of the total development costs, while soft costs and land costs made up 14.53% and 18.23% respectively (Mustapa et al., 2023). These findings imply that the primary component of housing development costs continues to be the hard costs, which comprise of labor, materials, and building expenditures (Construction Industry Development Board Malaysia, 2021).

The findings from the two different research studies managed to highlight that hard costs account for the most significant portion of the GDC in residential housing projects. Hence, detailing out the items from carefully analyzing the actual activities and the associated costs is very important to reduce risks of cost overrun. Following hard costs, land costs also represent a considerable share, while soft costs tend to comprise the smallest segment of the overall development expenditure. However, soft cost constitutes of many intangible activities and costs which exposes project's risk and viability. Hence, it is important to note that specifics regarding profit margins are somewhat ambiguous, as they have been designated as private and confidential information in the studies reviewed.

Despite this uncertainty surrounding profit margins, focusing on hard costs, soft costs, and land costs is both a practical and manageable approach in understanding development costs (Torp et al., 2016; Torp & Klakegg, 2016). This is particularly pertinent for stakeholders and stakeholders, as it allows for a comprehensive assessment of the financial aspects of housing projects. Given that profit margins can be estimated based on individual business profiles and historical data, stakeholders can derive meaningful insights into the potential profitability of their developments. This structured focus on the main cost components not only facilitates effective financial planning but also ensures that stakeholders are well-informed when making strategic decisions throughout the development process.

2.2 Housing Development Economics in Sarawak

Sarawak housing development process and procedure although relatively similar with Peninsular Malaysia, however it has several unique differences in terms of land law, development regulations and affordable housing management (Hassan et.al, 2021). While Peninsular Malaysia has standardized approval timelines under OSC 3.0 Plus system as outlined in Figure 2, a fully digital platform that allows for parallel reviews and statutory approval timelines of 21-42 days (Bernama, 2023; Marzukhi et al., 2019). In contrast, Sarawak operates under a distinct legislative framework governed by the Sarawak Land Code (Cap.81) and the Local Authorities Ordinance 1996, which falls outside the national OSC framework (Junaidi et al., 2018). Currently, Sarawak employs a hybrid "e-SPA" system where the initial submissions are digital, the subsequent workflow involves sequential and often manual processing across multiple agencies (Land and Survey Department, 2025) as illustrated in Figure 3, which lacks statutory timeframes, often resulting in uncertain approval periods and reduced accountability.

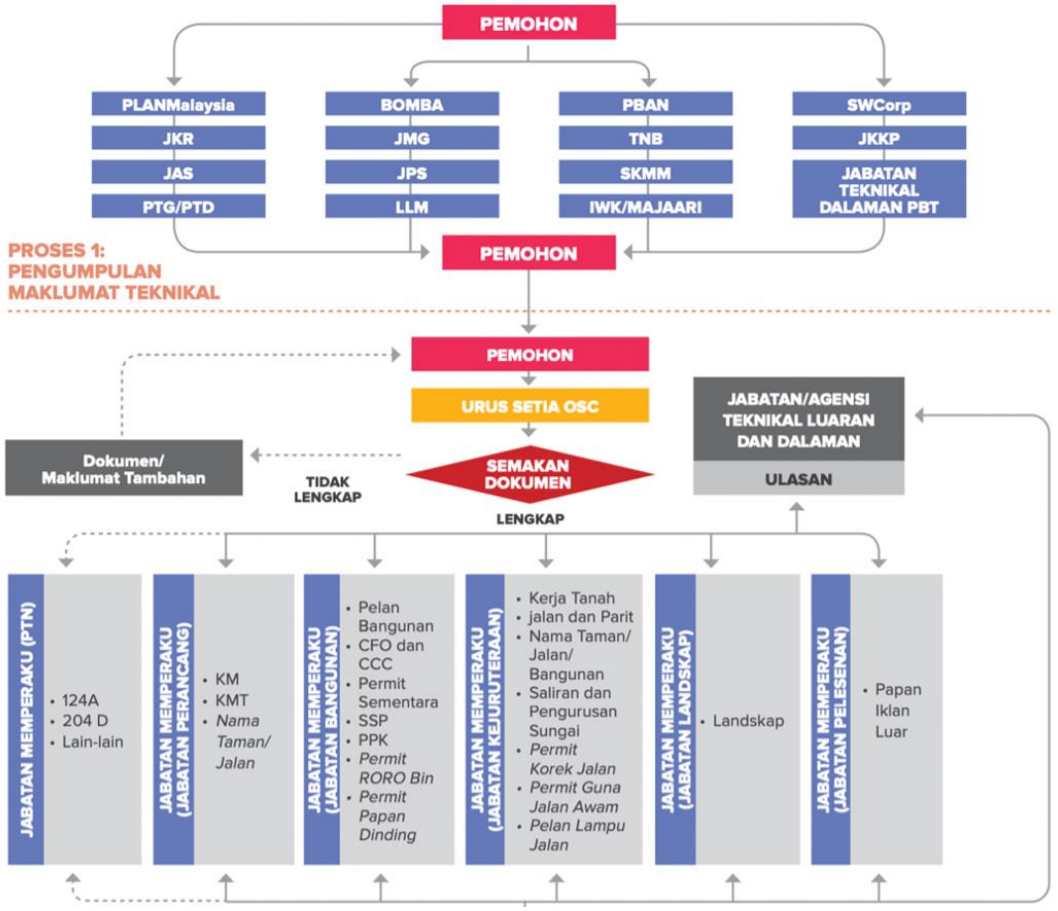

Figure 2 Peninsular's One-Stop-Centre (OSC) Flowchart for Planning Permission Process
(Source: Ministry of Local Government Development, 2019)

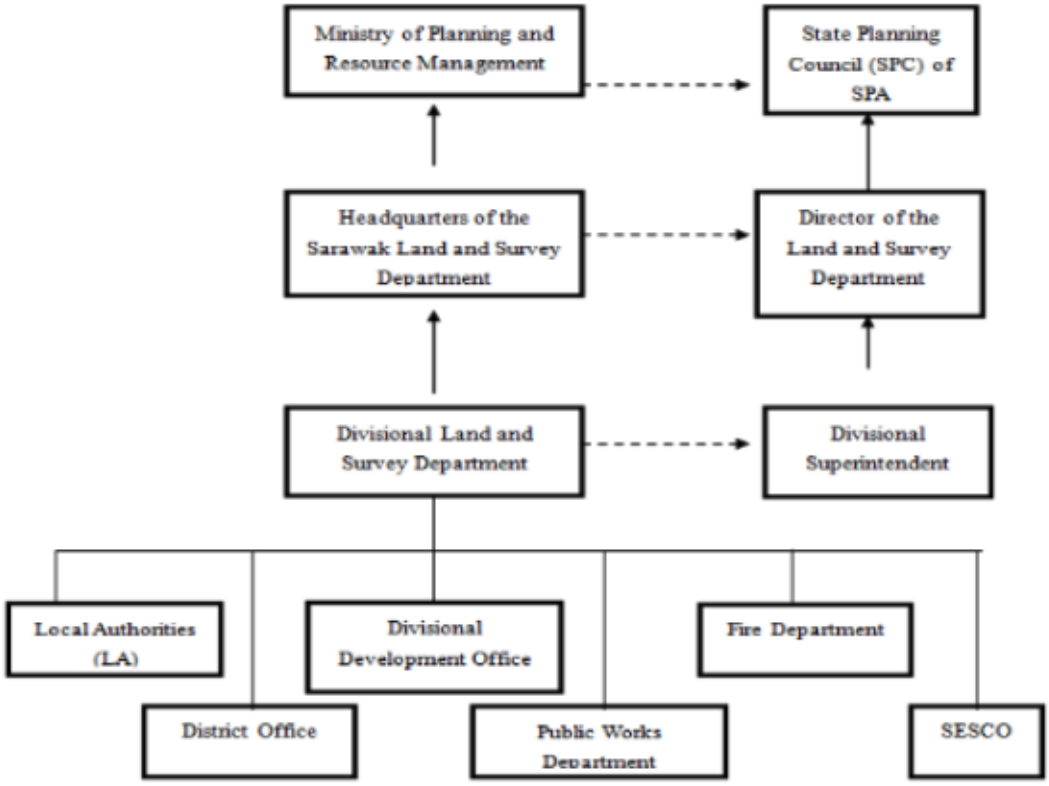

Figure 3 Sarawak's Flowchart for Planning Permission Process
(Source: Junaidi and Salleh, 2014)

Hence it is important to undertake a preliminary review on the composition of housing development in Sarawak especially to study the monetary implications from the differences in terms of law and regulations. The attempt to provide insight into the full development costs of housing projects in Sarawak is achieved by examining its three primary components: hard costs, soft costs, and land costs, along with transaction costs. This analysis will reveal the interrelationship among the components of housing development costs, as the sum of land costs, hard costs, and soft costs constitutes the total Gross Development Cost (GDC). This relationship demonstrates the influence of each cost component on the overall influence of the house selling price (Gross Development Value).

The findings will be further correlated with the costs of housing development in Peninsular Malaysia. By assessing the similarities and differences between Sarawak's and Peninsular Malaysia's cost components distribution, it will lead to producing evidence-based insights that are both diagnostic and prescriptive, derived from all the data gathered. Such information is crucial for assisting policymakers and regulatory bodies in assessing the impacts of the regulatory framework monetarily.

■3.0 RESEARCH METHODOLOGY

This research was achieved through a combination of a single preliminary case study with several interviews with Sarawak's housing development parties. It aimed to debunk the cost components based on the case study and identifying the laws and regulations governing the Sarawak housing development. The data was analyzed and categorized according to a standard cost component with the corresponding yardsticks, to ensure data accuracy and consistency. The outcome from the interviews with several officers from the regulatory body such as *Jabatan Tanah and Survei Sarawak* and Sarawak's Ministry of Public Health, Housing and Local Government (MPHLG) further confirms the regulations set by Sarawak government and translated into the transaction cost economics components.

■4.0 FINDINGS

A high-rise housing case study in Kuching, Sarawak managed to be attained as the preliminary review for this paper. The cost data from this case study is utilised to analyse the comparison with the distribution of cost components from the GDC for mid-high-rise housing projects in Peninsular (Johor, Melaka, Kuala Lumpur & Selangor, and Penang), which was recorded in the research "Property Development Costs: A Cost-Effectiveness Study to Apprehend Unaffordable Housing Crisis: under the grant funded by National Property Research Coordinator (NAPREC), Valuation and Property Services Department, Ministry of Finance, Malaysia in 2022. This comparison

and expanded dataset allow for a more comprehensive understanding of regional differences in cost distribution, planning requirements, and the impact of regulatory frameworks on project feasibility.

The analysis of preliminary case study revealed that the main cost drivers in housing development projects in Sarawak can be also categorised into three major components: hard costs, soft costs and land costs, similar with Peninsular. Each component reflects a combination of market-driven, regulatory, and site-specific factors that influence the overall cost structure. The findings follow the cost categorisation framework used in the case study cost template, which was adapted to standardise data comparison across various project scales and localities. The findings were further outlined through the chart of comparison of average cost components distribution for mid-high-rise housing in Kuching, Johor, Melaka, Kuala Lumpur and Selangor, and Penang in the following Figure 4.

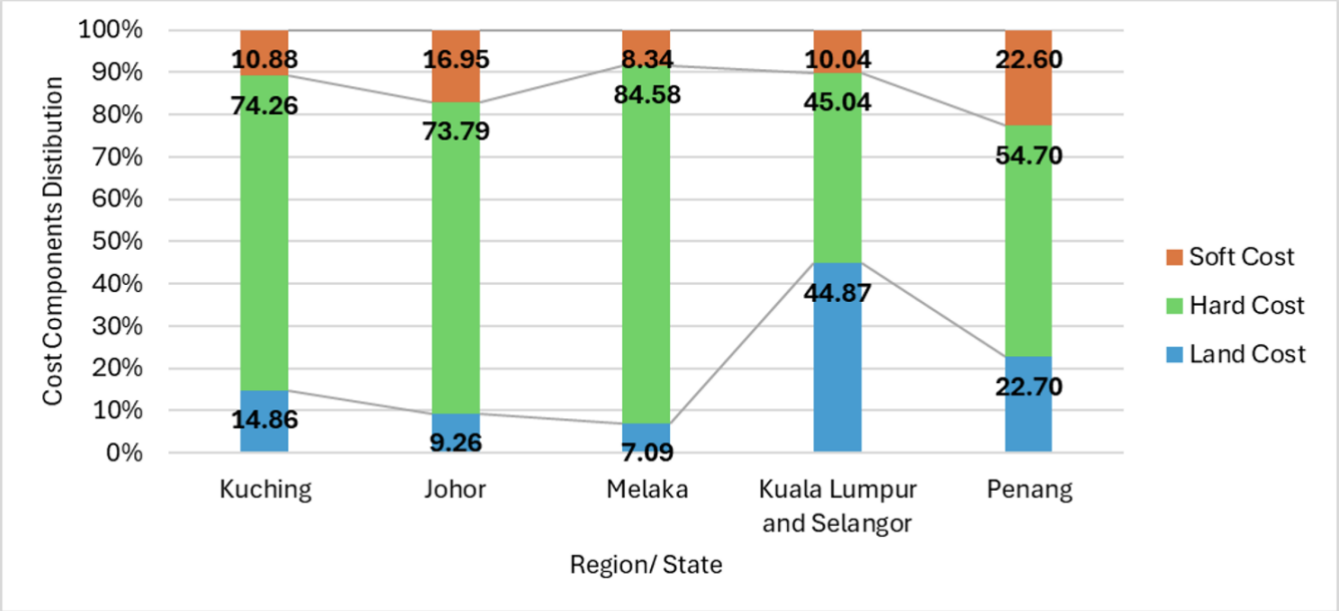

Figure 4 Comparison of Average Cost Components Distribution Between States
(Source: Author's own work)

Among these states, Kuala Lumpur and Selangor have the highest average land costs percentage, whereby Melaka has the lowest average land costs percentage. These findings reflect the scarcity of land in Kuala Lumpur and Selangor which drives the land cost most. Next, the state with the highest average hard cost's percentage is Melaka, whereby the state with the lowest average hard cost's percentage is Kuala Lumpur and Selangor. This reflects the concentration of the demand which further push the competitive pricing among the building materials suppliers, plants and machineries suppliers as well as the labor suppliers. On the other hand, the state with the highest soft costs percentage is Penang, whereby Melaka has the lowest soft costs percentage. This translated into the heavily regulations set by the local authorities in Penang with the challenging topography.

The collected data indicated that the cost component distribution for the high-rise housing case study in Kuching, Sarawak is 14.86% for land costs, 74.26% for hard costs, and 10.88% for soft costs. In comparison to the mid high-rise housing developments in Peninsular, the land costs percentage distribution is moderate, the hard costs percentage distribution is one of the highest among all the states being studied, and the soft costs percentage distribution is close to the value of soft cost percentage distribution of Kuala Lumpur and Selangor mid-high-rise housing case studies

These finding highlights that the hard cost components are the primary cost drivers in Sarawak housing development since it has the highest weightage for cost distribution, followed by land costs, and soft costs.

■5.0 DISCUSSION

The hard costs make up the highest percentage of the Sarawak housing development cost distribution. Hard cost components include materials, machinery, equipment and labor cost, wherein high material prices may lead to high housing prices. Mansur et al. (2016) noted that material prices are affected by production costs, import costs, loan interest, and supplier management. This is mainly driven from the cabotage policy enforced by the Ministry of International Trade and Industry, which push the costs higher (Ruslan et al., 2019). From the case study, it was found that in addition to the cabotage policy, the topography of Sarawak is one of the challenging factors that restrain the cost savings for hard cost items. Interestingly in Sarawak, whenever there is a requirement to supply material and equipment from another state, that will increase the hard costs. Notably, some specifications require contractors in Kuching to purchase materials or equipment from Peninsular Malaysia, which increase the logistics costs as high as additional 30% and contribute to the project delay. Moreover, certain Sarawak government regulations require the construction of certain infrastructure for development, like a substation and a stormwater detention pond, further adding up the construction works and costs.

Next, the expenses associated with land housing development are significantly affected by the regulations imposed by local authorities, especially regarding the native customary land rights. Development charges increase the market value of land (Azalina et al., 2021). In other circumstances, some developers acquired the land but waited for years to use it for development. Over the years, the land costs will escalate, and when it is finally ready for development, the value of the land will appreciate, especially when the infrastructure is constructed near the developing area (Ariff et al., 2022). This appreciating land value affects the housing prices since the authorities pass the fees to developers directly (Azalina et al., 2021). Hence, the land costs can greatly impact the housing development costs, depending on the location of the housing projects. For example, Kuala Lumpur and Selangor have higher weightage for land costs due to their premium location, which was established for their economic activities. This further support the land cost distribution finding, as the location for the case study in Kuching is also premium, considering it is located near one of the stations of the Kuching Urban Transport System (KUTS).

Furthermore, the soft costs are greatly affected by regulations, and these soft cost components are often overlooked on how they impact the overall housing development costs. For instance, Penang's authorities' contribution includes 5% selling price of unsold units to *Akaun Amanah Perumahan Bumiputera Pulau Pinang*. Similarly, Sarawak Government, through the State Planning Authority (SPA) recently released the SPA Circular No.1/2025 Sarawak Affordable Housing Policy and opted that, housing developers were not required to build the affordable housing but to contribute financially to the Sarawak Contribution Housing Trust Fund managed by the Ministry of Public Health, Housing and Local Government (MPHLG) to support government's initiatives in developing affordable housing (Ministry of Natural Resources and Urban Development Sarawak, 2025). This additional requirement equal to higher compliance costs which consequently contribute to higher soft costs, which affect the financial responsibilities of housing developers.

■6.0 CONCLUSION

In the context of Sarawak's housing development where challenges such as logistical limitations, native customary land rights and regulatory requirements significantly impact project costs, the proposed preliminary review on the housing development economics in Sarawak proves invaluable. In addition, by assessing the similarities and differences between Sarawak's and Peninsular Malaysia's cost components distribution, it will lead to producing evidence-based insights that are both diagnostic and prescriptive. It assists stakeholders in anticipating cost implications during the planning process, mitigating risks, and ensuring efficient resource utilization. By integrating transaction cost activities, such as approvals and negotiations related to native customary land rights into the calculation, stakeholders can better manage the costs arising from these regulatory and socio-political factors, thereby supporting more strategic decision-making. Thus, the research outcome will be useful to reflect the monetary implications of Sarawak's housing development regulatory policies as well as the supply chain.

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.J130000.7352.1R063).

Conflicts of Interest

The authors declare that there are no conflicts of interest related to the authorship or publication of this paper.

References

Ahmad, K. (2011). Construction Economics. Pearson Edu (US).

Ariff, M., Daud, M., Rosly, S. A., & Sori, Z. M. (2022). Understanding Issues of Affordable Housing in Malaysia to Attract Investment: An Exploratory Investigation. In Journal of the Malaysian Institute of Planners VOLUME (Vol. 20).

Azalina, N., Rahman, Y. A., Haizam, M., Saraf, M., Fairuz, S., Pin, C., Suratman, R., & Samsudin, S. (2021). A Qualitative Content Analysis of The Developers' Perspectives on Development Charges. In Journal of the Malaysian Institute of Planners VOLUME (Vol. 19).

Bernama. (2023). One Stop Centre 3.0 Plus improved, approval period reduced to 21 days, says Anwar. https://www.bernama.com/en/news.php?id=2182658

Boon Et Al. (2018). Housing Affordability in Malaysia: Perception, Price Range, Influencing Factors and Policies.

Chang, S., & Smith, M. K. (2023). Residents' Quality of Life in Smart Cities: A Systematic Literature Review. Land, 12(4). https://doi.org/10.3390/land12040876

Construction Industry Development Board Malaysia (CIDB). (2021). Cost Of Doing Business and Impact on Construction Industry.

Foo, C. H. (2018). The Impact of Capital Contributions and Compliance Costs on Housing Affordability. www.b-i.biz

Foo, C. H. (2020). How Rising Compliance Costs is Impacting Housing Affordability in Malaysia. www.iProperty.com.my www.b-i.biz

Gehner, E. (2009). Real Estate Development Strategies and Their Impact on the Risk Profile of a Project. CIB Joint International Symposium, 853–863.

Hassan, M. M., Ahmad, N., & Hashim, A. H. (2021). A review on housing affordability in Malaysia: are we doing fine. Malaysian Journal of Consumer and Family Economics, 26, 181-206.

Hassan, M. M., Ahmad, N., & Hashim, A. H. (2021). Housing Purchase Decision: The Variations Type of Housing Development in Malaysia. International Journal of Academic Research in Business and Social Sciences, 11(7), 463–484.

Junaidi, N.H., & Salleh, D. (2014). Administration of Property Development in Sarawak. Public Policy and Administration Research, 4, 1-10.

Junaidi, N. H., Prof, A., & Salleh, D. (2018). Administration of Property Development in Sarawak. July, 1–11. www.iiste.org

Keup, Megan. (2022). Hard Costs Vs. Soft Costs in Construction: Definitions & Examples.

Land and Survey Department, S. (2025). Procedure: SUBDIVISION / ALIENATION DEVELOPMENT / AVTC / APPLICATION FOR OF LAND / STRATA.

Mansur, S. A., Hamid, A. R. A., Yusof, N. A., Bahru, J., My, S., & My, R. (2016). Rising Trend in Construction Cost and Housing Price. In Journal of Advanced Research in Business and Management Studies ISSN (Vol. 3, Issue 1).

Marzukhi, M. A., Omar, D., Arshad, A. F., Leh, O. L. H., Yusup, M., & Jaafar, A. (2019). One stop centre (OSC): Lessons on best practices in planning system delivery. Planning Malaysia, 17(1), 104–115. https://doi.org/10.21837/pmjournal.v17.i9.590

Maslow, A. H. (1943). A Theory of Human Motivation. A Theory of Human Motivation, 187. https://doi.org/10.4324/9781912282517
Ministry of Finance Malaysia. (2020). Economic Outlook 2021.
Ministry of Local Government Development (KPKT). (2019). National Housing Policies: Challenges And Way Forward. https://en.wikipedia.org/wiki/Housing
Musaddad, H.A., Maamor, S. and Zainol, Z. (2023), "An analysis of housing affordability in Malaysia: random effect approach", Journal of Islamic Accounting and Business Research, Vol. ahead-of-print No. ahead-of print. https://doi.org/10.1108/JIABR-05-2022-0132
Mustapa, F. D., Misnan, M. S., Mustapa, M., Abdul Rahman, N., & Mohsin, A. (2023). Property Development Costs: A Cost-Effectiveness Study to Apprehend Unaffordable Housing Crisis. 17th NAPREC Conference, 43–70.
Nasir, Z. A., Nasir, N. M., Kusairee, M. A. Z. A., Syeddin, S. N. A., & Salim, N. Z. M. (2023). Evaluating the Nexus between Monetary Sector Variables and Housing Affordability in Malaysia. Information Management and Business Review, 15(4 (I)), 31-40.
National Property Information Centre. (2024). Property Transaction 2024.
Neenu. (2022). What Are Hard Costs In Construction?
Rosli Said, Rohayu Ab Majid, Md Nasir Daud, Zulkifli Esha, & Muhammad Najib Razali. (2017). Owners' Perception Towards Sustainable Housing Affordability in Kuching, Sarawak. Journal of Design and Built Environment, 17(S.I), 194–206.
Ruslan, S. M. M., Ghani, G. M., & Khalid, H. (2019). The Influence of Cabotage Policy on Price Disparity between Peninsular Malaysia and Sabah. 65–91. https://ijie.um.edu.my/article/view/18615
Saltler. (2020). Land Costs: Everything You Need to Know.
Suliman, S., Samsudin, S., & Ahmad, M. H. (2021). Decision Making Principles in Land Development Approval. Planning Malaysia, 19(4), 121–134. https://doi.org/10.21837/pm.v19i18.1038
Thompson. (2022). Hard Costs Vs. Soft Costs: Definitions and Differences.
Tobi, S. U. M., Jasimin, T. H., & Rani, W. N. M. W. M. (2020). Overview of Affordable Housing from Supply and Demand Context in Malaysia. IOP Conference Series: Earth and Environmental Science, 409(1). https://doi.org/10.1088/1755-1315/409/1/012010
Torp, O., & Klakegg, O. (2016). Challenges in Cost Estimation under Uncertainty—A Case Study of the Decommissioning of Barsebäck Nuclear Power Plant. Administrative Sciences, 6(4), 14. https://doi.org/10.3390/admsci6040014
Torp, O., Belay, A. M., Thodesen, C., & Klakegg, O. J. (2016). Cost Development Over-time at Construction Planning Phase: Empirical Evidence from Norwegian Construction Projects. Procedia Engineering, 145(May), 1177–1184. https://doi.org/10.1016/j.proeng.2016.04.152
Zainuddin, F. K., Mustapa, F. D., & Mustapa, M. (2022). Debunking the Unaffordable Houses in Malaysia from The Transaction Cost Economics Perspectives: A Preliminary Study. International Journal of Accounting, Finance and Business (IJAFB), 7(39), 106 - 114.