



PLANNING MALAYSIA:
Journal of the Malaysian Institute of Planners
VOLUME 24 ISSUE 5 (2026), Page 771 – 784

EXPLORING POTENTIAL HOMEBUYERS' PERCEPTIONS AND CONSIDERATION OF FLOOD RISK IN RESIDENTIAL PROPERTY PURCHASING IN SHAH ALAM, SELANGOR

Muhammad Arif Syukran Zairudin¹, Thuraiya Mohd^{2*}

¹*Department of Real Estate Management, Faculty of Built Environment,*

^{2*}*Green Safe Cities, Faculty of Built Environment,*

UNIVERSITI TEKNOLOGI MARA CAWANGAN PERAK, MALAYSIA

Abstract

Urban flooding has become a recurring issue in Malaysia's rapidly developing cities, posing increasing risks to residential properties and homebuyers. In cities such as Shah Alam, flooding has led to significant property damage and disruptions to community well-being. In response, this study serves as a perception-based exploratory investigation to assess potential homebuyers' awareness of flood risks and examine the extent to which these risks influence their residential property purchasing decisions in Shah Alam, Selangor. A quantitative cross-sectional approach was employed, gathering primary data via structured questionnaires from 102 respondents in Shah Alam. The sample demographic consists predominantly of university-level students and young adults evaluating prospective purchasing criteria. Data were analysed using descriptive statistics, Exploratory Factor Analysis (EFA), and Multiple Linear Regression to evaluate measurement structures and examine relationships between decision-making variables. The results indicate that potential homebuyers demonstrate a high level of awareness regarding flood risks, treating flood risk as a significant consideration alongside traditional housing factors. This study contributes valuable insights for government agencies in formulating effective policies aligned with *Rancangan Malaysia Ke-13 (RMK-13)* and the National Housing Policy, while promoting climate-resilient housing practices.

Keywords: Flood Risk Awareness, Homebuyer Decision Making, Residential Property, Shah Alam

² Corresponding author. Email: thura231@uitm.edu.my

INTRODUCTION

Housing is a fundamental human necessity, providing stability and security for the global population (Ismail et al., 2021). In Malaysia, rapid urbanisation in centres like Kuala Lumpur and Shah Alam has intensified housing demand, leading to a highly competitive market where property price, location, and neighbourhood quality traditionally dominate homebuyer priorities (Majid et al., 2023). However, the increasing frequency of natural disasters has recently forced a shift in these traditional considerations (Geng et al., 2024). Several studies have argued and concluded that the reality of the strata law that has given broad powers to the Management Bodies, but has failed to instil good governance. The law introduced does not counsel enforceable standards of good governance (Wong, 2019). Gaps were also found between the responsibilities of the management bodies and the residents' role in ensuring smooth management and maintenance works.

Flooding currently represents the most critical environmental hazard impacting Malaysian residential areas (Abid et al., 2021). Driven by climate change and urban expansion, recent severe flood incidents in Shah Alam and the wider Selangor region have caused extensive property damage and communal disruption (Sarhan et al., 2024). Consequently, integrating environmental risk into the housing decision-making process has become as vital as assessing price or location for properties in vulnerable zones.

While existing literature extensively covers disaster management and urban planning, there is a significant research gap regarding individual homebuyer perceptions of flood risk during the acquisition process. This study addresses this gap by examining how flood risk influences residential property purchasing decisions in Shah Alam, Selangor. Specifically, it assesses homebuyer awareness and the significance of flood risk relative to other decision-making factors.

LITERATURE REVIEW

Urban Flooding and Property Market

Flooding remains the most pervasive natural hazard in Malaysia, categorized primarily into seasonal monsoon floods and localized urban flash floods (Muhamad & Shaidin, 2022). While climatic shifts have intensified rainfall patterns across Southeast Asia, the escalating vulnerability of economic hubs like Selangor is largely attributed to rapid urbanization and the proliferation of impervious surfaces, which overwhelm traditional drainage infrastructures (Ahmad et al., 2025). The capital city of Shah Alam exemplifies this issue, as recent spatial assessments show that rapid development in low-lying floodplain areas has significantly increased vulnerability in key locations such as Taman Sri Muda (Leeonis et al., 2024; Idris et al., 2026). The 2021 "Great Flood" serves as

a critical socioeconomic benchmark, resulting in over RM6 billion in national losses and highlighting a widening "income-resilience gap" where asset depreciation affects property owners disproportionately (DOSM, 2022). Despite structural mitigation efforts such as retention basins, the pace of urban development continues to outstrip infrastructure capacity, creating a high-risk environment for residential investments (Ahmed et al., 2024).

Flood Risk Perception and Buyer Awareness

While flood risk is technically defined by the intersection of hazard, exposure, and vulnerability, homebuyers often perceive it through the "availability heuristic," where personal experience with past disasters outweighs official data (Reckien et al., 2018; Feng, 2022). This creates a "knowledge-action gap," where high awareness does not necessarily result in risk-aversion. According to Protection Motivation Theory (PMT), a buyer only acts to avoid a flood zone if they possess the "coping appraisal", the belief that they can financially or physically mitigate the threat (Ahmed et al., 2018; Kumaresen et al., 2025).

Theory of Planned Behavior (TPB) suggests that purchase intentions are driven by a mix of personal attitude and subjective norms, such as the social stigma associated with flood-prone neighbourhoods (Vinnell et al., 2021). Therefore, understanding the cognitive process behind risk awareness provides the necessary foundation for analysing the specific physical and economic factors that dictate property selection in vulnerable regions.

Homebuyer's Decision-Making Factors

The decision to purchase a home is a multi-dimensional trade-off where buyers must balance financial constraints against lifestyle and safety needs (Saraf et al., 2025). Financial capability serves as the primary "gatekeeper," particularly for Malaysian M40 and B40 households where the "financing accessibility gap" often overrides personal preference (Seng & Tham, 2024). Beyond the initial price, buyers evaluate "Value for Money" by comparing perceived benefits like unit size and facilities against the cost of investment (Rachmawati et al., 2019). This economic logic also includes long-term asset protection; buyers increasingly seek properties with high potential for capital appreciation while avoiding areas where recurring environmental issues might cause property values to stagnate or depreciate (Ying et al., 2025).

While finance dictates the ability to purchase, location and neighborhood quality determine the specific choice of address. In the Klang Valley, location is measured by "time-utility," where proximity to workplaces and connectivity via major highways or LRT3 stations are prioritized to minimize commuting costs (Zakaria et al., 2022; Nordin & Rahim, 2023). Furthermore, because many homes are sold off-the-plan, a developer's track record for timely

completion and structural integrity serves as a critical proxy for trust, helping buyers manage the risks associated with their life savings (Saad et al., 2024; Khoo et al., 2024).

However, while housing preferences and the physical impacts of flooding are well-documented, a significant empirical void remains regarding the psychological integration of flood risk into the actual pre-purchase stage. Limited research explores how this risk specifically competes with dominant factors like affordability in urban centers. To address this gap, Figure 2 illustrates the conceptual framework of this study, depicting how five conventional housing determinants (Financial, Location, Neighbourhood Quality, Developer Reputation, and Property Layout) and Flood Risk Factors serve as independent variables (IV) hypothesized to influence homebuyers' risk consideration (DV) in Shah Alam. Grounding these relationships empirically provides behavioral insights that traditional real estate models currently overlook.

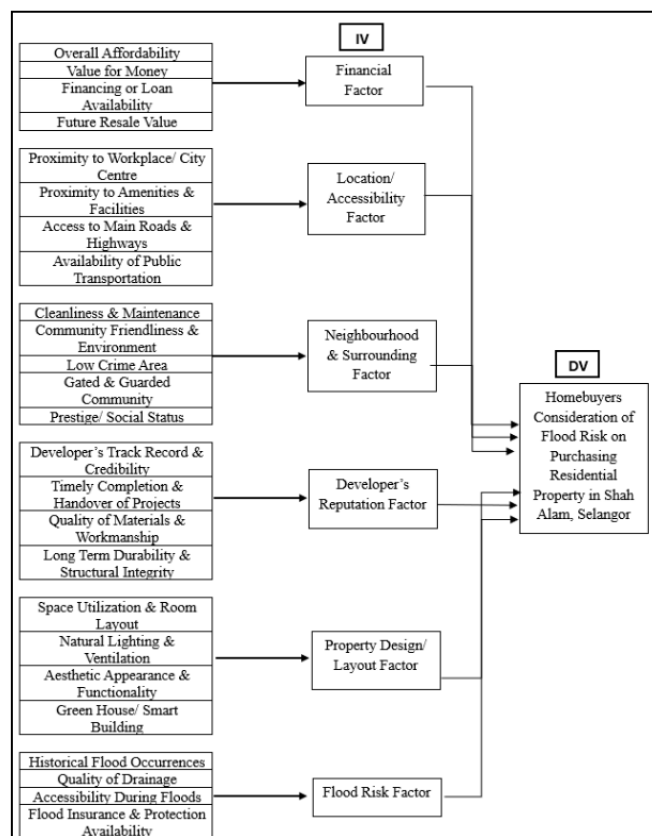


Figure 1: Conceptual Framework
 Source: Author (2026)

Spatial Exposure and GIS Context in Shah Alam

The empirical focus on Shah Alam aligns with recent spatial-temporal assessments in the Klang River Basin, which highlight that rapid urban expansion in low-lying floodplains has severely compromised natural retention capacities. As illustrated in Figure 2, GIS-based hazard mapping reveals distinct spatial exposure tiers across the municipality, with critical residential zones in southern Shah Alam, most notably Taman Sri Muda (Seksyen 25), Seksyen 13, and Batu Tiga, which classified under High and Very High Risk zones due to their proximity to major river networks like Sungai Rasau and Sungai Klang. These areas frequently experience severe flash flooding when localized drainage networks are overwhelmed during high-intensity rainfall events. Integrating spatial exposure context into this study confirms that homebuyers' risk perceptions and pre-purchase checking behavior are strongly grounded in real-world spatial hazard patterns across these vulnerable urban sectors.

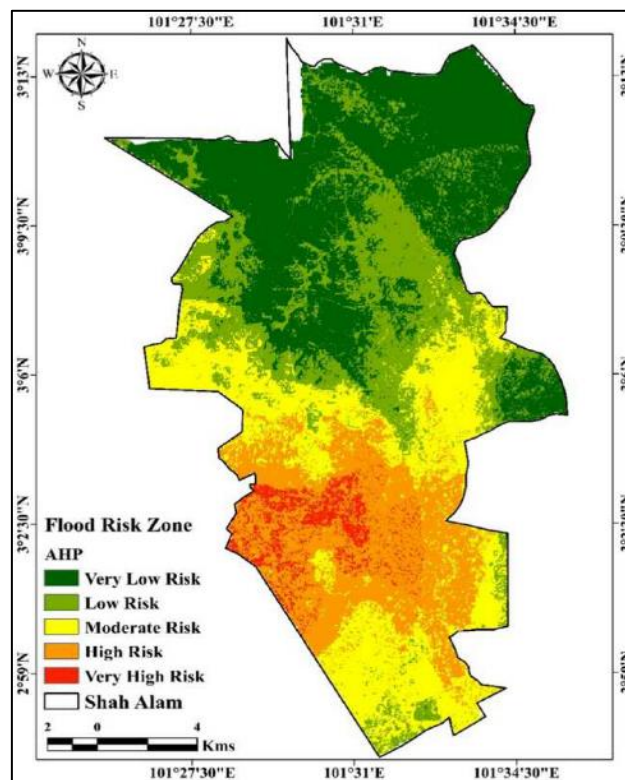


Figure 2: GIS-based Flood Risk Hazard Map of Shah Alam Municipality Using Analytical Hierarchy Process (AHP)
(Source: Ahmed et al., 2024)

RESEARCH METHODOLOGY

This study focuses on Shah Alam, Selangor, a key urban residential hub in Malaysia characterized by rapid development and a significant history of recurring flood incidents. Despite environmental vulnerabilities, Shah Alam remains a high-demand housing market, providing a critical context for examining risk-behavior trade-offs. The study utilizes a quantitative, cross-sectional research design to evaluate how flood risk awareness influences purchasing decisions.

Primary data was collected via a structured questionnaire. The target population consists of individuals aged 20–59 residing in Shah Alam, representing the primary home-buying demographic. Using Yamane's (1967) formula with a margin error of 0.1, a sample size of 100 respondents was targeted. A random sampling approach was employed to ensure demographic representativeness. The survey instrument was divided into three sections: (A) Demographics, (B) Flood risk awareness, and (C) Levels of consideration for purchasing factors. Responses in Sections B and C were measured using a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Secondary data were also gathered from academic journals, government reports, and online publications to support the literature review and contextual understanding of flood risk in Malaysia.

For measurement and data analysis, 25 sub-factors across six (6) key determinants were evaluated: financial factors, location, neighborhood quality, developer reputation, property design, and flood risk. Data analysis was conducted using SPSS. Descriptive statistics summarized demographic characteristics and buyer awareness. Exploratory Factor Analysis (EFA) using Principal Axis Factoring with Varimax rotation was conducted to validate factor structure and factorability. Subsequently, Multiple Linear Regression analysis was performed to measure the relative statistical impact of flood risk against conventional housing factors on purchasing decisions.

ANALYSIS AND DISCUSSION

A total of 102 valid questionnaires were retained for analysis. **Table 1** summarises the respondents' demographic characteristics, including gender, age, educational attainment, and occupational status.

Table 1 Section A: Demographic Table

Item	Answers	Frequency	Percentage (%)
Age	18-22	31	30.4
	23-27	54	52.9
	28-32	5	4.9
	33-37	5	4.9
	38-42	5	4.9

Item	Answers	Frequency	Percentage (%)
	43-47	0	0
	48-above	2	2
Gender	Male	56	54.9
	Female	46	45.1
Education	Secondary	3	2.9
	Diploma	19	18.6
	Bachelor's	71	69.6
	Master	6	5.9
	Phd	1	1
	Others	2	2
Occupation	Unemployed	7	6.9
	Government	9	8.8
	Private	12	11.8
	Self-Employed	3	2.9
	Student	71	69.6

Source: Author 2026

In terms of gender, 54.9% of the respondents were male, while 45.1% were female. The sample is then heavily weighted toward younger demographics, with 52.9% aged 23–27 and 30.4% aged 18–22. Furthermore, 69.6% of the respondents are current students holding or pursuing higher education degrees. While this profile represents an educated segment of prospective buyers preparing to enter the urban property market in the Klang Valley, the high proportion of non-active buyer/student respondents limits the direct generalizability of the findings to current, active homebuyers with immediate transaction capacity. Consequently, this study is framed as a preliminary, perception-based exploratory investigation into the risk perceptions and decision-making preferences of emerging homebuyer cohorts in flood-prone urban zones.

This study further examines the level of homebuyers' awareness of flood risk in potential residential areas in Shah Alam. Table 2 presents the mean scores and standard deviations for each awareness statement, highlighting the respondents' level of awareness towards flood-related issues when considering property purchases.

Table 2 Mean Score for Homebuyer's Awareness

Statement	N	Mean Value	Standard Deviation	Interpretation
I am familiar with the flood situations in my residential area.	102	4.06	1.003	High
Before purchasing a property, I will check whether the area is flood-prone.	102	4.58	0.776	Very High

Statement	N	Mean Value	Standard Deviation	Interpretation
I am aware of which areas in Sha Alam are more prone to flooding.	102	3.96	1.168	High
I believe the risk of flooding in Shah Alam has increased in recent years.	102	4.13	0.930	High

Source: Author (2026)

The study assessed homebuyers' awareness of flood risks in potential residential areas in Shah Alam using four (4) survey statements (N = 102). As shown in Table 2, respondents demonstrated a generally high level of awareness of flood-related issues. The interpretation of mean scores was based on class intervals as suggested by Alkharusi (2022), where 3.43–4.23 indicates a high level and 4.24–5.04 indicates a very high level. The item “Before purchasing a property, I will check whether the area is flood-prone” recorded the highest mean (M = 4.58, SD = 0.78), indicating that flood risk is actively considered during property selection. Respondents also showed awareness of local flood conditions (M = 4.06, SD = 1.00) and flood-prone areas in Shah Alam (M = 3.96, SD = 1.17). Additionally, the perception that flood risk has increased in recent years (M = 4.13, SD = 0.93) suggests growing concern among homebuyers regarding climate-related hazards.

This study further examines the suitability of the collected data for factor analysis by assessing the validity of the measurement items. Tables 3 and 4 present the results of the Kaiser-Meyer-Olkin (KMO) Measure, Bartlett's Test of Sphericity, and the Anti-Image Correlation analysis, which determine the adequacy of the data and the significance of each measurement variable.

Table 3: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.918
Bartlett's Test of Sphericity	Approx. Chi-Square	2720.203
	Df	300
	Sig.	<0.001

Source: Author (2026)

Table 4: Anti Image Correlation

Main Factors	Sub Factors	Measures of Sampling Adequacy (MSA)	Communalities Value (CV)	Remarks
Financial	Overall Affordability (F1)	0.926	0.704	Significant

Main Factors	Sub Factors	Measures of Sampling Adequacy (MSA)	Communalities Value (CV)	Remarks
Location & Accessibility	Value For Money (F2)	0.941	0.816	Significant
	Financing Or Loan Availability (F3)	0.925	0.709	Significant
	Future Resale Value (F4)	0.919	0.699	Significant
	Proximity To Workplace & City Centre (L1)	0.892	0.793	Significant
	Proximity To Amenities & Facilities (L2)	0.930	0.687	Significant
	Access To Main Roads & Highways (L3)	0.913	0.686	Significant
	Availability Of Public Transportation (L4)	0.959	0.622	Significant
	Cleanliness & Maintenance (N1)	0.910	0.809	Significant
Neighbourhood & Surrounding	Community Friendliness & Environment (N2)	0.906	0.700	Significant
	Low Crime Area (N3)	0.918	0.693	Significant
	Gated & Guarded Community (N4)	0.914	0.668	Significant
	Prestige & Social Status (N5)	0.830	0.705	Significant
	Track Record & Credibility (D1)	0.938	0.708	Significant
Developer' Reputation	Timely Completion & Handover of Projects (D2)	0.939	0.646	Significant
	Quality of Materials & Workmanship (D3)	0.888	0.752	Significant
	Long Term Durability & Structural Integrity (D4)	0.873	0.799	Significant
	Space Utilization & Room Layout (DE1)	0.947	0.717	Significant
	Natural Lighting & Ventilation (DE2)	0.949	0.786	Significant
Property Design & Layout	Aesthetic Appearance & Functionality (DE3)	0.943	0.772	Significant

Main Factors	Sub Factors	Measures of Sampling Adequacy (MSA)	Communalities Value (CV)	Remarks
	Green House & Smart Building (DE4)	0.920	0.743	Significant
Flood Risk	Historical Flood Occurrences (F1)	0.919	0.654	Significant
	Quality of Drainage (F2)	0.902	0.800	Significant
	Accessibility During Floods (F3)	0.930	0.778	Significant
	Insurance & Protection Availability (F4)	0.915	0.804	Significant

Source: Author (2026)

Exploratory Factor Analysis and Measurement Validation

An Exploratory Factor Analysis (EFA) using Principal Axis Factoring with Varimax rotation was conducted on the 25 sub-factors to examine the underlying factor structure. Data factorability was confirmed through the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy, yielding an excellent score of 0.918 (exceeding the 0.60 threshold; Hair et al., 2013). Bartlett's Test of Sphericity was highly significant ($\chi^2_{300} = 2720.203, p < 0.001$), confirming sufficient correlation among items for factor extraction (Hair et al., 2013). Measure of Sampling Adequacy (MSA) values from the anti-image matrix all exceeded 0.80, and item communalities were well above 0.50. The EFA extracted six distinct constructs which includes Financial, Location, Neighborhood, Developer Reputation, Property Layout, and Flood Risk. Thus demonstrating robust construct validity without significant cross-loadings.

Multiple Linear Regression Analysis

Table 6: Multiple Linear Regression Results

Predictor Variables	Unstandardized B	Std. Error	Standardized Beta (β)	t-value	Sig. (p)	VIF
(Constant)	1.824	0.393	—	4.636	< 0.001	—
Financial Factors	0.190	0.107	0.156	1.779	0.077	1.954
Location & Accessibility	0.330	0.110	0.274	3.000	0.003	2.109

Neighbourhood Quality	-0.195	0.128	-0.164	-1.527	0.128	2.911
Developer Reputation	0.007	0.116	0.006	0.064	0.949	2.381
Property Layout & Design	0.026	0.125	0.022	0.206	0.837	2.878
Flood Risk Factors	0.255	0.091	0.257	2.795	0.006	2.132

Note: Dependent Variable: "Before purchasing a property, I will check whether the area is flood-prone".
Model Fit: $R^2 = 0.237$, Adjusted $R^2 = 0.213$, $F(6,193) = 9.982$, $p < 0.001$.

Source: Author (2026)

To evaluate how significantly flood risk influences purchasing considerations relative to conventional housing determinants (Financial, Location, Neighbourhood Quality, Developer Reputation, and Property Layout), a Multiple Linear Regression analysis was conducted.

The overall regression model demonstrated a statistically significant fit ($F(6,193) = 9.982$, $p < 0.001$), accounting for 23.7% of the total variance in prospective homebuyers' risk assessment during property consideration ($R^2 = 0.237$, Adjusted $R^2 = 0.213$), which is considered an acceptable explanatory power in exploratory behavioral research (Hair et al., 2013). Multicollinearity diagnostics confirmed that Variance Inflation Factor (VIF) values for all predictors remained low, ranging between 1.954 and 2.911 (well below the critical threshold of 10.0; Hair et al., 2013), indicating the absence of severe multicollinearity among the explanatory variables.

Evaluating the standardized regression coefficients (β) reveals that Location & Accessibility ($\beta = 0.274$, $t = 3.000$, $p = 0.003$) and Flood Risk Factors ($\beta = 0.257$, $t = 2.795$, $p = 0.006$) exert the strongest statistically significant positive influence on homebuyer evaluation. Financial factors also demonstrated a moderate positive inclination ($\beta = 0.156$, $t = 1.779$, $p = 0.077$). Crucially, the statistical significance of Flood Risk confirms that environmental hazards, historical inundation experience, and drainage quality actively compete alongside spatial accessibility when prospective buyers evaluate residential properties in Shah Alam.

CONCLUSION & POLICY RECOMMENDATIONS

The empirical findings provide clear evidence of an evolving paradigm in residential property decision-making within Shah Alam, where flood risk awareness has emerged as a critical factor shaping potential homebuyers' preferences. Beyond traditional determinants such as price, location, and property design, prospective buyers increasingly integrate environmental vulnerabilities into their pre-purchase housing evaluations. Based on these statistical insights

($\beta_{\text{Flood}} = 0.257, p = 0.006$) and the documented spatial exposure across high-risk municipal sectors such as Taman Sri Muda, Seksyen 13, and Batu Tiga, targeted institutional interventions are essential.

First, local authorities and the Ministry of Housing and Local Government (KPKT) must enforce mandatory flood-risk disclosure frameworks, ensuring buyers receive verified spatial exposure maps prior to contract execution.

Second, local planning authorities such as Majlis Bandaraya Shah Alam (MBSA) should incorporate strict GIS-based flood zoning controls into local structural plans, enforcing mandatory retention basins, permeable surfaces, and elevated building standards within high-risk zones.

Furthermore, conventional drainage management protocols must transition toward predictive AI-monitored smart drainage systems to mitigate localized flash flooding effectively.

Finally, financial institutions and insurers should collaborate to develop accessible, standardized micro-insurance packages tailored to residential assets in vulnerable zones, thereby bridging the financial resilience gap for urban property owners.

REFERENCES

- Abid, S. K., Sulaiman, N., Wei, C. S., & Nazir, U. (2021). Flood vulnerability and resilience: Exploring the factors that influence flooding in Sarawak. *IOP Conference Series Earth and Environmental Science*, 802(1), 012059. <https://doi.org/10.1088/1755-1315/802/1/012059>
- Ahmad, N., Ng, C. P., Ismai, N., Wong, M. M. R., Abbas, F., Law, T. H., Bahari, A. N. 'Z., & Rofia, M. F. M. (2025). A review of major flood events in Malaysia between 1970-2024. *Jurnal Kejuruteraan*, 37(2), 909–921. [https://doi.org/10.17576/jkukm-2025-37\(2\)-28](https://doi.org/10.17576/jkukm-2025-37(2)-28)
- Ahmed, M. A., Haynes, K., & Taylor, M. (2018). Driving into floodwater: A systematic review of risks, behaviour and mitigation. *International Journal of Disaster Risk Reduction*, 31, 953–963. <https://doi.org/10.1016/j.ijdrr.2018.07.007>
- Ahmed, M. F., Halder, B., Juneng, L., Mokhtar, M. B., & Leeonis, A. N. (2024). Flood potential and near real-time inundation analysis through geospatial approaches in Shah Alam, Malaysia. *Geomatics Natural Hazards and Risk*, 15(1). <https://doi.org/10.1080/19475705.2024.2361807>
- Alkharusi, H. (2022). A descriptive analysis and interpretation of data from Likert scales in educational and psychological research. *Indian Journal of Psychology and Education*, 12(2), 13–16.
- DOSM (2022). Department of Statistics Malaysia. <https://www.dosm.gov.my/portal-main/release-content/special-report-on-impact-of-floods-in-malaysia-2021>
- Feng, R. (2022). Risk and availability Heuristic: The role of availability in risk perception and management. *Advances in Economics, Business and Management Research*, 652. <https://doi.org/10.2991/aebmr.k.220405.127>

- Geng, J., Fang, W., Liu, M., Yang, J., Ma, Z., & Bi, J. (2024). Advances and future directions of environmental risk research: A bibliometric review. *The Science of the Total Environment*, 954, 176246.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2013). *Multivariate data analysis* (7th ed.). Pearson Education.
- Idris, R., Rushdi, N. N., Saleh, M. T. M., Zulkarnain, S. H., & Hidayat, J. T. (2026, February 20). Spatial–Temporal assessment of urban flood vulnerability using GIS and AHP in Klang River Basin. <https://ebpj.e-iph.co.uk/index.php/EBProceedings/article/view/7777>
- Ismail, S., Manaf, A. A., Hussain, M. Y., Basrah, N., & Azian, F. U. M. (2021). Housing preferences: An analysis of Malaysian youths. *PLANNING MALAYSIA*, 19. <https://doi.org/10.21837/pm.v19i17.993>
- Khoo, T. J., et al. (2024). Property purchase: Issues and challenges facing by first house buyers in Malaysia during Covid-19 pandemic. *International Journal of Business and Management*, 12(1).
- Kumaresen, M., Teo, F. Y., Selvarajoo, A., Sivapalan, S., & Falconer, R. A. (2025). Assessing community perception, preparedness, and adaptation to urban flood risks in Malaysia. *Water*, 17(15), 2323. <https://doi.org/10.3390/w17152323>
- Leeonis, A. N., Ahmed, M. F., Halder, B., Mokhtar, M. B., Lim, C. K., Juneng, L., & Khirrodin, R. P. K. (2024). Mitigating flood risk at Shah Alam, Malaysia for sustainable development. *Discover Sustainability*, 5(1).
- Majid, R. A., Said, R., Rahim, N. A., Saleh, A. F., Suryanto, T., & Indonesia, F. E. D. B. I. I. N. R. I. L. I. (2023). Modelling housing demand factors for affordable units in Malaysia. *International Journal of Sustainable Construction Engineering Technology*, 14(5). <https://doi.org/10.30880/ijscet.2023.14.05.021>
- Muhamad, N. and Shaidin, H. A. (2022). The assessment of flood events in Selangor, Malaysia. *Journal of Advanced Geospatial and Science Technology*, 2(2), 42–55.
- Nordin, M. S. A., & Rahim, N. A. (2023). A survey on homebuyers behaviour towards the housing market in Klang Valley. *IOP Conference Series Earth and Environmental Science*, 1217(1), 012027. <https://doi.org/10.1088/1755-1315/1217/1/012027>
- Rachmawati, D., Shukri, S., Azam, S. M. F., & Khatibi, A. (2019). Factors influencing customers' purchase decision of residential property in Selangor, Malaysia. *Management Science Letters*, 1341–1348. <https://doi.org/10.5267/j.msl.2019.5.016>
- Reckien, D., Salvia, M., Heidrich, O., Church, J. M., Pietrapertosa, F., De Gregorio-Hurtado, S., D'Alonzo, V., Foley, A., Simoes, S. G., Lorencová, E. K., Orru, H., Orru, K., Wejs, A., Flacke, J., Olazabal, M., Geneletti, D., Feliu, E., Vasilie, S., Nador, C., . . . Dawson, R. (2018). How are cities planning to respond to climate change? Assessment of local climate plans from 885 cities in the EU-28. *Journal of Cleaner Production*, 191, 207–219. <https://doi.org/10.1016/j.jclepro.2018.03.220>
- Saad, M. S. H., Ali, M. I., & Ramli, N. I. (2024). Flood risk management in development projects: A review of Malaysian perspective. *IOP Conference Series: Earth and Environmental Science*.
- Saraf, M. H. M., Azman, N., Kasim, A. C., & Pin, S. F. C. (2025). Understanding youth

- choices in house renting and buying decisions: A systematic review. *Quantum Journal of Social Sciences and Humanities*, 6(3), 284–291. <https://doi.org/10.55197/qjssh.v6i3.687>
- Sarhan, R. H., Farid, A. M., & Mokhtar, M. (2024). Shah Alam City's current restrictions on flood risk management: Stakeholders perspectives review. *E3S Web of Conferences*, 599, 05008. <https://doi.org/10.1051/e3sconf/202459905008>
- Seng, D. T. H., & Tham, J. (2024). Housing affordability for B40 and M40 in Malaysia: Financing and insights from Singapore and Indonesia. *International Journal of Multidisciplinary Trends*, 6(8), 85–93.
- Vinnell, L. J., Milfont, T. L., & McClure, J. (2021). Why do people prepare for natural hazards? Developing and testing a Theory of Planned Behaviour approach. *Current Research in Ecological and Social Psychology*, 2, 100011. <https://doi.org/10.1016/j.cresp.2021.100011>
- Wong, J. Z. (2019). Towards enforceable standards, rules and rights in strata management: An analysis. *IIUM Law Journal*, 27(2), 397–446. <https://doi.org/10.31436/iiumlj.v27i2.433>
- Yamane, T. (1967). *Statistics: An introductory analysis* (2nd ed.). Harper and Row.
- Ying, C. S., Sheau-Ting, L., Mansor, R., & Weng-Wai, C. (2025). Factors influencing homeownership decisions among Malaysians: A PRISMA review. *PLANNING MALAYSIA*, 23. <https://doi.org/10.21837/pm.v23i39.1940>
- Zakaria, Z., Zainuazmi, W. N. S. B. M., Jahauddin, U. K. B., Noordin, N. @. N., & Sawal, M. Z. H. M. (2022). Critical factors influencing the purchasing decisions among home buyers in Malaysia. *International Journal of Academic Research in Economics and Management Sciences*, 11(2). <https://doi.org/10.6007/ijarems/v11-i2/12960>

Received: 10th August 2026. Accepted: 13th August 2026