An Integrated Housing Database
for Strategic Policy Planning and Decision-making

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Introduction

On September 9, 2020, the Government has approved the establishment of a National Statistics Data Council, an advisory body with the role of providing direction for the national statistical system and information coordination. To quote Datuk Seri Mustapa Mohamed, a Minister in the Prime Minister's Department (Economy), the creation of the advisory body is in line with "…the needs to cultivate a culture of decision-making based on facts"[1].

We welcome this initiative to coordinate existing data that will better inform the Government in their policy formulation and decision-making. In regards to the housing sector, a large concerted effort is still necessary to collect comprehensive data to inform housing policies.

[1] Bernama (2020)

This article highlights the gaps in existing data that impedes evidence-based housing policy formulation and underscores the need for the Government to establish an Integrated Housing Database. The database is crucial for policymakers and housing stakeholders to plan and make decisions based on timely, quality, open and granular data. The database should encompass both demand and supply factors of housing, and data must be collected at an appropriate spatial level (town or city level) to reflect households' conurbation area.

To ensure the database is comprehensive, the Government should leverage on existing data (e.g. household surveys, property market reports) and concurrently collect new data on demand and supply of housing—by embarking on a National Housing Survey.

The existing data is insufficient for strategic policy planning and decision making

The current available data on housing is inadequate and fragmented which impede any effective analysis, planning and monitoring of the housing sector. This was highlighted in KRI's "Rethinking Housing: between State, Market and Society" report[2], where some cross-cutting issues were found common among state and federal agencies that collect and store housing-related data:

- Data are not available at all
- Data are available but not at the right spatial scale
- Data are available but only in physical format
- Data are available but sparsely located or not kept under a single entity
- Data are available but could not be shared due to confidentiality reasons

The lack of data hinders policymakers and housing stakeholders from conducting comprehensive analyses that can be done to tackle housing issues. For instance, rising house price could be an outcome of either speculative demand, increasing construction costs or increasing land prices. However, the root cause of the house price increase cannot be empirically determined without data[3].

The lack of data also contributes to the housing market mismatches. As of Q2 2020, there are 31,661 overhang residential properties, valued at RM20.03 billion[4]. The high number of overhang units indicates a mismatch in housing demand and supply (i.e. supply exceeds demand). However, the existing data available is insufficient to pinpoint the cause of the overhang, whether it is due to oversupply (houses are not built based on demand) or lack of demand (due to lack of affordability or the housing attributes does not meet the preference of prospective buyers). This makes it difficult for formulating comprehensive and targeted policy responses.

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[2] Suraya Ismail et al. (2019)

[3] Ibid.

[4] NAPIC (2020)

In the 11th Malaysia Plan, as part of the strategy to strengthen planning and implementation for better management of housing, the Government created TEDUH—a housing database under the responsibility of Jabatan Perumahan Negara (JPN), KPKT. However, the database only provides information on incoming housing projects in the country and limited to supply-side analysis i.e. capturing information on housing projects available for sale[5]. Another major drawback of this database is that no information on the specifications and conditions of existing housing stocks are captured. As such, the use of the existing housing database is insufficient for relevant stakeholders to conduct an in-depth analysis covering both demand and supply factors of the housing market.

An integrated housing database as a solution

To consolidate and improve existing housing data, we propose the government set up an Integrated Housing Database. Having a comprehensive housing database is imperative for the country to have an efficient and resilient housing market. The database must capture information on both supply and demand factors of the housing market which policymakers can use to: (1) identify trends and existing gaps, (2) plan and implement strategic policies and (3) monitor the housing stock[6].

However, to devise the right policies and strategies, policymakers must understand that the housing sector is composed of many submarkets, which may be distinct from one another. For example, the housing market for residents in social housing e.g. Projek Perumahan Rakyat (PPR) would vary greatly from the market for residents in condominiums. The former is a distributive measure by the government (welfare needs) to address housing needs of the right target groups, while the latter is the ability for the market to efficiently clear the housing stock—and the inability to do is termed as a market failure (e.g. unsold houses due to mismatch between supply and demand). Recognising the distinction between welfare issues and market failures is fundamental for effective policy formulation.

Differentiating between housing demand and housing need

To ensure the right demarcation between social sector provisions and market sector provisions, the database must encompass both demand and supply-side factors. **On the demand side, analysis of demand should be fragmented into effective demand and housing need.** Effective demand for housing is the quantity and quality of housing that households choose to occupy based on their preference and ability to pay, while housing need is a normative concept of what the society considers the minimum standards for "good quality housing[7]"[8].

To illustrate the difference, imagine a couple with a small child living in a studio unit. As the child grows older, they may need to move out of their small studio as they require more space. If the

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[5] For more details, refer to TEDUH's official website at https://teduh.kpkt.gov.my/
[6] Khazanah Research Institute (2015)
[7] Currently Malaysia has no defined standard of what constitutes a "good quality housing". Source: Suraya Ismail et al. (2019).
[8] CCHPR (2014)

family can afford it, they would exhibit an effective demand for a bigger house. On the contrary, if they cannot afford it, they would continue to live in their current house, and thus experience a form of unmet housing need. Households with low incomes may "need" housing but not be able to afford it without some form of assistance to realise their need[9].

The database should encompass demand indicators of:

(1) **household profile**, e.g. household size, household income, income recipients, marital status, employment status, and occupation,

(2) **household satisfaction**, i.e. residents' satisfaction of their current units, and

(3) **household preference**, i.e. housing characteristics that households would want such as the desired price and location.

These indicators are crucial as they enable in-depth demand analysis of current need and arising demand and need. Having such data will help policymakers identify households that are currently living in inadequate housing while being unable to afford the houses from the local housing market without some assistance. At the same time, they can forecast future need and demand which helps them plan future housing projects to better accommodate the needs of the *rakyat.*

Capturing both existing and incoming supply

On the supply side, the database should collect information on both existing and incoming supply of housing[10]. This is to anticipate whether existing and incoming housing projects can meet current and forecasted housing demand and need. For supply, the database should capture data on characteristics of the building such as price, size, quality, location and accessibility.

These indicators should be included in the database as they assist in planning and monitoring the housing supply that is tailored to households' needs and demand. A comprehensive analysis linking both demand and supply will help identify the imbalances in the housing system and determine the needs and intervention measures required.

For instance, the number of households identified with unfulfilled "housing need" in Kampung Baru will alert the Kuala Lumpur City Hall (DBKL) to respond with the necessary action such as by providing more social housing or giving financial assistance. Likewise, assessment of housing demand and supply informs local planners and private developers to plan suitable private housing developments based on the affordability levels of households in an area and the price composition of existing stock.

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[9] A different example would be a single person living in an "excessively large house" may be deemed not to "really need it". The appropriate policy response in this case would be to ensure more moderate sized houses are built, underscoring the importance of housing supply that are tailored to local needs. Source: ibid.

[10] Suraya Ismail et al. (2019)

Guiding principles to maximise the database's potential

The Integrated Housing Database should be made publicly available for all housing stakeholders. This is to maximise the potential benefit that can be generated from the database by eliminating cost-inefficiencies in carrying out research. For example, housing stakeholders (e.g. policymakers, private developers, potential house buyers) can save time and costs by sourcing the open data via the Integrated Housing Database instead of conducting their own primary data collection[11].

To maximise the database's potential, we suggest that the database should encompass the following guiding principles[12]:

(1) **complete**—the data is made publicly available and not subjected to privacy, security or privilege limitations
(2) **primary**—collected at the highest possible level of granularity and not in aggregate nor modified forms. The data must be collected at the **right spatial scale** to enable more targeted policy responses.
(3) **timely**—data release must be prompt and consistent so that the data remains relevant
(4) **non-discriminatory**—available to anyone with no requirement of registration.

An integrated database incorporating the aforementioned principles would greatly benefit policymakers and enables them to plan for a steady and affordable supply of housing that is based on effective demand and land suitability[13]. Additionally, the database will also benefit the public by enabling them to make more informed planning and house-buying decisions[14].

Leveraging on existing data and embarking on a National Housing Survey

Developing the Integrated Housing Database involves collaboration between many agencies and ministries. The database should leverage on existing data collected such as: (1) routine household surveys and the census by the Department of Statistics, (2) the property market reports by the National Property Information Centre, (3) land-use patterns by PLANMalaysia, and (4) transportation networks and Origin Destination Mobilities (ODM)[15] by Ministry of Transport,

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[11] Ahmad Ashraf Ahmad Shaharudin (2020)

[12] Adapted from the Sebastopol's list of open data principles. Sebastopol listed eight principles, but we highlighted four which we deem are key to maximise the housing database's potential. For more details on open data and open government, refer to the discussion paper by Ahmad Ashraf Ahmad Shaharudin (2020).

[13] KRI (2015)

[14] Ibid.

[15] Our existing spatial data lacks information on daily job-home movements of people, including their transport choice and job locations. The availability of such information will facilitate analysis to identify employment centres in each mukim and household's accessibility to those centres. An ODM assessment will capture the origins and destinations of people to evaluate how well housing is facilitating households' healthy functioning of life. Source: Suraya Ismail et al. (2019)

among others. Furthermore, there must be a commonly-agreed data standards among the data providers so that the data format is standardised, making them comparable and interoperable[16].

To bridge the current data gaps, we propose the government to conduct a new National Housing Survey, which is a comprehensive statistical survey that collects data on the current housing stock and the characteristics of their residents. It is regularly carried out by governments[17] to ensure planning and decision-making are based on robust and timely information.

The National Housing Survey should collect the following information[18]:
- **socio-demographic background of households** (e.g. tenure, household composition, household size, household income)
- **housing costs** (e.g. rental/mortgage payments, utility costs, maintenance costs)
- **residents' satisfaction of current housing and surrounding neighbourhood** (e.g. satisfaction of the building quality) and **housing preference** (e.g. desired built area, location, transportation network)
- **housing condition** (e.g. building type, number and area of dwelling rooms, year of construction, valuation price, accessibility, physical condition)
- **origin-destination mobility,** e.g. mobility patterns between individuals' housing and employment locations

Having a Housing Condition Survey[19] as part of the National Housing Survey enables stakeholders to capture the quality of existing housing stocks, subsequently identifying issues regarding the property condition (e.g. defects, signs of dilapidation, plumbing issues). Policymakers can utilise this information to address existing issues and pre-empt problems in the future (e.g. planning for maintenance). The Housing Condition Survey will also provide the necessary baseline information to improve the current housing standard[20].

Concluding remarks

In conclusion, for our country to address the current housing issues and formulate policy strategies based on evidence, it is vital to establish an Integrated Housing Database. The database must encompass both demand and supply of housing that is comprehensive and at an appropriate spatial level. The database must also be complete, primary, timely, and non-discriminatory to maximise the potential benefit that can be extracted. To bridge existing data gaps, we propose the Government embark on a National Housing Survey to collect the necessary data to feed into the database.

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[16] Ahmad Ashraf Ahmad Shaharudin (2020)

[17] Among examples of National Housing Surveys carried out in other countries are: American Housing Survey (US), English Housing Survey (UK), Housing and Land Survey (Japan),

[18] Adapted from US Census Bureau (n.d.)

[19] A Housing Condition Survey is a detailed evaluation of a property's condition through an extensive inspection by independent professionals.

[20] Suraya Ismail et al. (2019)

The creation of an integrated housing database requires a strong inter-agency collaboration by various government agencies, namely the Ministry of Housing and Local Government, the Department of Statistics Malaysia the National Property Information Centre (NAPIC) and PLANMalaysia, among others.

References

Ahmad Ashraf Ahmad Shaharudin. 2020. *Open Government Data: Principles, Benefits and Evaluations*. Kuala Lumpur: Khazanah Research Institute. http://www.krinstitute.org/assets/contentMS/img/template/editor/DP%20-%20Open%20Government%20Data%20-%20Principles%20Benefits%20and%20Evaluations%20(002).pdf.

Bernama. 2020. "Improvement in National Statistical System Needed to Formulate Policies, Decisions - Mustapa." Bernama. https://www.bernama.com/en/business/news.php?id=1891851.

CCHPR. 2014. *Housing Need and Effective Demand in England: A Look at "the Big Picture"*. Cambridge: Cambridge Centre for Housing & Planning Research, University of Cambridge. https://www.cchpr.landecon.cam.ac.uk/Research/Start-Year/2014/Other-Publications/Housing-need-and-effective-demand-in-England/Report.

KRI. 2015. *Making Housing Affordable*. Kuala Lumpur: Khazanah Research Institute. http://www.krinstitute.org/assets/contentMS/img/template/editor/_FINAL_Full_Draft_KRI_-_Making_Housing_Affordable__with_hyperlink__220815%20(1).pdf.

NAPIC. 2020. *Press Release: Malaysia Property Market First Half 2020*. Putrajaya: National Property Information Centre.

Suraya Ismail, Christopher Choong Weng Wai, Hawati Abdul Hamid, Nur Fareza Mustapha, Tan Theng Theng Gregory Ho, Muhammad Nazhan Kamaruzuki, and Adam Manaf Mohamed Firouz. 2019. *Rethinking Housing: Between State, Market and Society: A Special Report for the Formulation of the National Housing Policy (2018 – 2025)*. Kuala Lumpur: Khazanah Research Institute. http://www.krinstitute.org/assets/contentMS/img/template/editor/Rethinking%20Housing%20(Full%20Report)-%20EN%20Version.pdf.

US Census Bureau. n.d. "About the American Housing Survey." United States Census Bureau. https://www.census.gov/programs-surveys/ahs/about.html.