# MURNInets IMPLEMENTATION TOWARDS SUSTAINABLE TOWNSHIP DEVELOPMENT IN MALAYSIA

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## ARTICLE INFO

## ABSTRACT

*MURNInet (Malaysia Urban Indicators Network) is a framework developed by FDTCP (Federal Department of Town and Country Planning, Peninsular Malaysia) to measure the sustainability levels and performance of urban development in Malaysia. Since its launch in 2002, MURNInet set as a foundation to assess urban development in Malaysia. After review and refinement, it was rebranded as MURNInets (Malaysian Urban-Rural National Indicators Network for Sustainable Development) comprises of 6 sustainable dimensions, 20 sustainable themes and 39 sustainable indicators. The revised MURNInets provides wider agglomeration economies which offers larger prospects for knowledge and sharing information, effective provision of services especially in health and education, and also on cultural exchanges. The aims of this article is to examine the significance and achievement on the implementation of MURNInets by Malaysian Local Authorities. The method used in this study is semi-structured interviews with 8 registered urban planners of government agencies and government-linked organisations. The outcomes suggested that all these sustainable factors are important for societal development, empowerment of public community, wellbeing, cultural solidification, transformation and cosmopolitanism. Generally, all dimensions, theme and indicators were achieved in the implemented score.*

## 1. INTRODUCTION

MURNInets, the Malaysian Urban-Rural National Indicators Network for Sustainable Development, is a comprehensive tool used to assess the sustainability level of local authorities in Malaysia. It enables the collection and storage of data, allowing local, state, and national governments to evaluate and measure the performance of local authorities [1]. The framework of MURNInets consists of five strategies, six dimensions, twenty themes, and thirty-nine indicators, which are based on various policies and plans such as the New Economic Model, Eleventh Malaysia Plan, Vision 2020 policy, Second National Urbanization Policy, and Third National Physical Development Plan [2].

The main objectives of MURNInets are to determine the sustainability level of local authorities, identify strengths and weaknesses, propose improvement measures, and establish MURNInets 2.0 as the monitoring tool [3]. By monitoring the sustainability status using the indicators, local authorities can identify areas for improvement and propose measures to enhance sustainability within their jurisdiction. The evaluation and measurement of city sustainability levels are crucial for local governing authorities to provide better services [4] and enhance overall sustainability [5] and liveability within their jurisdiction. [6] MURNInets has been continuously updated to align with international agendas such as the New Urban Agenda and Sustainable Development Goals [7].

This article is divided into four sub-chapters, covering the introduction, materials and methods, findings and discussion of MURNInets dimensions, themes, and indicators, and the conclusion. The purpose of the article is to promote a set of criteria, indicators, and indices for sustainability assessment in major cities of Malaysia. It highlights the importance of population distribution and concentration in facilitating agglomeration economies, information sharing, and the provision of services. Participation of public in surveys is also crucial in measuring what is liveable and contributing to the Liveable Cities Agenda for a better urban future in Malaysia [9].The article also emphasizes the role of cities as centers of political power and administration, and how urban citizens have greater opportunities to influence policy-making.

The Federal Department of Town and Country Planning plays a crucial role in implementing sustainable planning and development initiatives in Malaysia. The article concludes by emphasizing the importance of a good physical environment in achieving urban sustainability and well-being. It states that Malaysia has made significant strides in nation building and sustainable development, with the government aiming to ensure fair access to resources and improve the quality of life for its people. [8].

Overall, MURNInets serves as a valuable tool for assessing and improving the sustainability level of local authorities in Malaysia, aligning with international agendas and promoting sustainable development for the benefit of the population.

## 2. MATERIALS AND METHODS

MURNInets is built upon five key strategies, namely Good Governance, Social Well-being, Economic Vitality, Environmental Sustainability, and Spatial Planning. These strategies encompass six dimensions, including Institutional Arrangement and Collaboration, Livability and Well-being, Economic Productivity, Environmental Protection, Resource Management, and Spatial Planning. Within these dimensions, twenty themes and thirty-nine indicators are used to assess the sustainability level of local authorities. Data collection involved conducting expert interviews with professional stakeholders. A purposive sampling method was employed, resulting in the selection of 8 registered urban planners who are members of the Malaysian Institute of Planners (MIP) as the respondents. The interview questions were formulated based on the sustainable dimensions, themes, and indicators outlined in Table 1 of MURNInets 2.0.

*Table 1: MURNInets 2.0 Dimensions, Themes and Indicators*

| Dimension | | Themes | | Indicators |
|---|---|---|---|---|
| COMPETITIVE ECONOMY | ET.1 | Growth of Economic | ET1.P1 | Growth Rate of Employment |
| | ET.2 | Poverty | ET2.P1 | Rate Poverty |
| | ET.3 | Investment by Private | ET3,P1 | Growth rate of private investment |
| SUSTAINABLE ENVIRONMENTAL QUALITY | ST.1 | Quality Environmental | ST1.P1 | River water quality |
| | | | ST1.P2 | Environmental air quality |
| | ST.2 | Risk Management | ST2.P1 | Number of Initiatives of Disaster Risk Management and Implementation |
| | ST.3 | Management Environmental | ST3.P1 | Per Capita Waste |
| | | | ST3.P2 | The number of Initiative on Environmental Management and Implementation |
| HEALTHY COMMUNITIES | KT1 | Residence | KT1.P1 | Percentage of Affordable Housing Provided in Accordance to State Government's Target |
| | KT2 | Public and Recreational Facilities | KT2.P1 | Percentage Coverage of Residences within the 40 meter perimeter from Public Amenities |
| | KT3 | Quality of Life | KT3-P1 | Ratio of Public Nuisance Complaints Cases per 10,000 Population |
| | | | KT3.P2 | Ratio of Water Borne Diseases per 10,000 Population |
| | | | KT3.P3 | Percentage Of Grade A Food Premises |
| | | | KT3.P4 | Percentage of Grade A Public Toilets |
| | | | KT3.P5 | Index of Happiness |
| | KT4 | Security | KT4.P1 | The ratio of index crimes per 10,000 population |
| LAND USE & OPTIMAL NATURAL RESOURCES | GT1 | Land Use Change | GT1.P1 | Percentage of Changes in Non-Built-Up Areas |
| | GT.2 | Urban Development | GT2.P1 | Rate of Urbanisation |
| | | | GT2.P2 | Ration of Public Open Space per 1,000 Population |
| | | | GT2.P3 | Percentage of Applications for Open Space Gazettement |
| | GT.3 | Tourism and Heritage Conservation | GT3.P1 | Change in The Forest Area Percentage |
| | | | GT3.P2 | The Number of Recreation centers and Tourism Attractions |
| EFFECTIVE INFRASTRUCTURE AND TRANSPORT | IT.1 | Utility Efficiency | IT1.P1 | Daily Domestic Water Consumption Per Capita. |
| | | | IT1.P2 | Daily Electricity Consumption (KW) Per Capita |
| | IT.2 | Management of Solid Waste | IT2.P1 | Household Waste Recycling Rate |
| | IT.3 | Transportation | IT3.P1 | Number of Integrated Public Transport Terminals / Stations |
| | IT.4 | Management of Sewerage | IT4.P1 | Percentage of Housing With Sewerage Services |
| EFFECTIVE GOVERNANCE | UT.1 | System Delivery | UT1.P1 | Percentage of Population Satisfaction With Local Government Services |
| | UT.2 | Institutional Strengthening | UT2.P1 | Percentage of Local Government Revenue Collection Performance |
| | | | UT2.P2 | Percentage of Local Government Maintenance Spending Versus Overall Spending |
| | UT.3 | Enforcement And Monitoring | UT3,P1 | Percentage of Application For Planning Permission Complied With Local Plan |
| | | | UT3.P2 | Number of Integrated Enforcement Operations Conducted by Local Authority |

The questionnaire was structured into two sections. Section A, titled "Respondents' Backgrounds," comprised 5 questions, encompassing age group, affiliation, designation level, annual income, and gender. Section B, titled "MURNINETs Implementation," included 18 questions related to the implementation of MURNINETs, aligning with its dimensions, themes, and indicators as delineated in Table 1. Respondents were asked to use a five-point Likert scale, ranging from 1 (lowest) to 5 (highest), to indicate their assessments for measurement purposes. The collected data were subsequently analyzed and presented in chart format to depict the level of implementation according to the scale.

## 3. FINDINGS AND DISCUSSION

The findings and discussions for Section A, which pertains to the Respondents' Background, are presented in Figure 1 below:
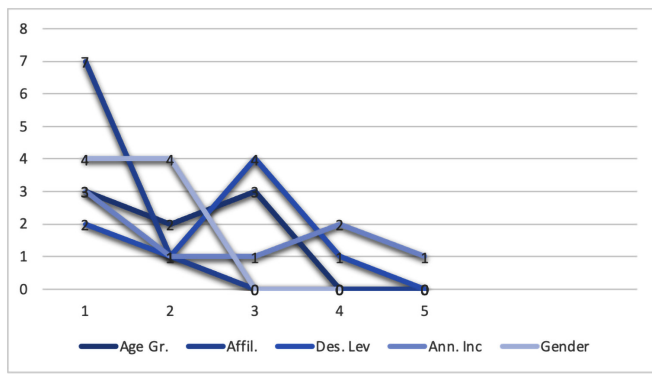


*Figure 1: Respondent's Background*

In Figure 1, the findings and discussions for Section A, focusing on the Respondents' Background, can be summarized as follows:

i. **Age Range:** The urban planning experts surveyed in this study exhibit a wide age range, spanning from 21 to 50 years of age. This distribution suggests that respondents from various age groups were included, contributing to a diverse set of perspectives.

ii. **Affiliation:** All respondents in this study hold positions as executives within government agencies and government-linked companies. This indicates that the sample primarily comprises professionals working directly in the field of urban planning within the public sector.

iii. **Designation Levels:** The respondents' designation levels vary, with senior executives constituting half (50%) of the total sample. The remaining respondents are distributed across junior, middle, and top management positions. This distribution reflects a cross-section of experience levels within the urban planning field.

iv. **Annual Income:** The distribution of annual income among the respondents is fairly balanced. Notably, the highest percentage of respondents (37.5%) falls within the income range of RM36,000 per annum. This income diversity may influence perspectives on urban planning issues.

v. **Gender:** The study maintains an equal gender representation, with 50% of respondents identifying as male and 50% as female. This gender balance ensures that insights from both male and female urban planning experts are included in the study, potentially leading to a more comprehensive analysis.

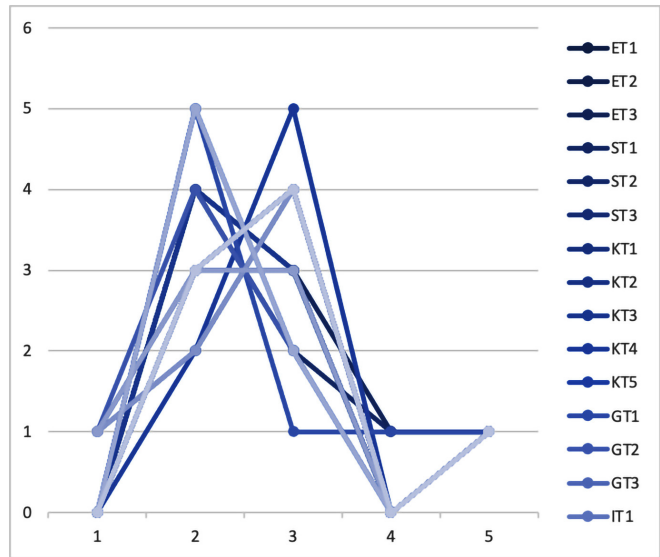Findings and discussions for Section B: MURNINETs Implementation is shown in Figure 2 below:



*Figure 2: MURNINETs Implementation*

In Section B, MURNINETs Implementation, the findings reveal that all theme indicators, except for KT1 and KT2 within the Healthy Communities dimension, GT2 in the Land Use and Optimal Natural Resources dimension, and IT3 and IT4 within the Transportation and Sewerage Management dimension, did not achieve high scores. This means that 14 other theme indicators need improvement to attain a 'highly achieved' status. Most experts indicated tier 2 on the Likert scale, signifying 'achieved' for the majority of theme indicators. However, the study highlights two theme indicators that scored low: GT1 (Land Use Change) in the Land Use and Optimal Natural Resources dimension and ET3 (Private Investment) in the Competitive Economy dimension. These areas require significant enhancement to foster balanced sustainable urban development.

## 4. CONCLUSION

Based on the conclusions drawn from the findings of MURNInets, it is evident that all dimensions, themes, and indicators have achieved their implemented scores. However, there is a need for notable improvement in the Competitive Economy dimension and the Land Use and Optimal Natural Resources dimension. These improvements are crucial in enabling urban communities to have greater opportunities in influencing policy-making and promoting sustainable development at both the local and national levels. The implementation of sustainability framework assessments in urban areas is always significant, as it ensures targeted urban growth and the attainment of sustainable development aspirations. The findings

also highlight the importance of additional supporting ecosystems for social contentment, such as safety, health, and well-organized local governing authorities that provide services, facilities, and amenities. The responsibility of local and federal authorities is vital in shaping sustainable cities for the local communities, aligning with MURNInets objectives, the New Urban Agenda, and the Sustainable Development Goals (SDGs). Monitoring the performance of local authorities is essential in identifying any sustainability gaps and improving them. Moving forward, the successful implementation of MURNInets requires cooperation from everyone to strengthen its application in measuring the sustainability level of local authorities. Public participation in surveys is also crucial in measuring what is liveable and contributing to the Liveable Cities Agenda for a better urban future in Malaysia.

## ACKNOWLEDGEMENTS

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