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ANALYSIS ON SOCIAL WELL-BEING INDICATORS: A CASE STUDY OF KETENGAH DISTRICT IN MALAYSIA

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Abstract

Social well-being is a multidimensional construct reflecting the quality of life experienced by individuals and families across economic, housing, educational, health, safety and community dimensions. Although Malaysia has formulated the Family Well-Being Index (FWBI) to track these dimensions on the national level, limited research has examined on how the framework can be localized in the semi-rural settings. This paper uses the FWBI domains to examine the social well-being within the Central Terengganu Development Authority (KETENGAH) region, a predominantly semi-rural development region. Data were collected through a household survey supplemented by focus group discussions and interviews. To investigate the relationship between socio-economic characteristics and well-being scores, the mixed-methods methodology was used: descriptive statistics (the profiling of respondents), Relative Importance Index (RII) to compare satisfaction across indicators and correlation analysis to assess the relationship. The findings identified lower satisfaction in several economic and infrastructural areas, particularly income adequacy, environmental services, transportation, and digital connectivity. Spearman's rho analysis further identified statistically significant but generally weak-to-moderate associations between selected socioeconomic characteristics and well-being indicators. The findings demonstrate that national well-being frameworks should be adjusted to local settings and offer policy-relevant implications to enhance social well-being in semi-rural Malaysia.

Keywords: Family Well-Being Index, Social Well-Being, Semi-Rural, KETENGAH

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INTRODUCTION

Social well-being has become an important development concern beyond economic growth. It is a multidimensional concept encompassing financial security, housing, health, education, safety, and community relationships (Diener et al., 2018; Noor et al., 2014). In Malaysia, the Family Well-Being Index (FWBI) provides national benchmarks for these dimensions, but national-level findings may not fully reflect the distinct socioeconomic conditions of semi-rural communities (Ahmad & Noor, 2021).

The Central Terengganu Development Authority (KETENGAH) area represents such a context, where households face challenges related to infrastructure access, rising living costs, and limited employment diversification (Omar et al., 2020; Razak, 2019). However, local applications of the FWBI remain limited, restricting the development of context-specific interventions.

This study therefore applies the FWBI framework in KETENGAH using a mixed-methods approach comprising descriptive statistics, the Relative Importance Index (RII), correlation analysis, and focus group discussions. It aims to assess social well-being across multiple domains, identify the socioeconomic indicators associated with well-being outcomes, and propose policy recommendations for semi-rural communities.

From a regional planning perspective, the localisation of the FWBI provides a decision-support mechanism for identifying spatial and socioeconomic disparities that may be obscured by national averages. In KETENGAH, well-being indicators related to household economy, housing, accessibility, digital connectivity, environmental services, health and safety can inform the prioritisation of infrastructure investment, service provision and community development programmes. This is particularly relevant to KETENGAH's role as a regional development authority responsible for coordinating socioeconomic and physical development across dispersed semi-rural settlements. Consequently, a locally adapted FWBI can support programme targeting, resource allocation and the monitoring of development outcomes at the regional level.

LITERATURE REVIEW

Social well-being is a multidimensional concept encompassing economic security, education, housing, health, safety, and social cohesion (Keyes, 1998; Noor et al., 2014). In Malaysia, the Family Well-Being Index (FWBI) provides national benchmarks for monitoring these dimensions. However, national findings may conceal regional disparities, particularly in rural and semi-rural communities (Omar et al., 2020).

Research shows that well-being is context dependent. Financial security does not always translate into greater subjective well-being, while housing

quality, infrastructure, sanitation, and clean water access significantly influence household satisfaction (Ahmad & Noor, 2021; Omar et al., 2020; Razak, 2019; Stiglitz et al., 2018). Well-being frameworks should therefore be adapted to local social, cultural, and infrastructural conditions (Diener et al., 2018; Helliwell et al., 2020).

Research applying the FWBI at the subnational level remains limited, especially in semi-rural areas such as KETENGAH. This study addresses the gap by combining quantitative and qualitative methods to identify the socioeconomic factors most closely associated with local well-being.

Definition of Social Well-Being

Social well-being refers to the quality of life experienced by individuals, families, and communities. It extends beyond material prosperity to include financial security, health, housing, education, safety, social inclusion, and spirituality (Keyes, 1998; Noor et al., 2014). It comprises objective conditions, such as income and access to essential services, and subjective assessments of life satisfaction (Diener et al., 2018; Stiglitz et al., 2018).

In Malaysia, family well-being is closely associated with broader social well-being because families are fundamental to social stability and national development (Noor et al., 2014; Razak, 2019). Strengthening family well-being therefore contributes to more inclusive development and improved quality of life.

Definition of Family Well-Being Index

The Family Well-Being Index (FWBI) is a multidimensional measure used to assess the quality of life of Malaysian families. Its domains include the economy, housing, health, education, family relationships, safety, community participation, and spirituality (Ahmad & Noor, 2021; Noor et al., 2014).

By combining respondents' satisfaction ratings with socioeconomic and service-access indicators, the FWBI provides a culturally relevant assessment of family well-being (Razak, 2019; Stiglitz et al., 2018). It also enables policymakers, researchers, and development planners to monitor changes over time, evaluate progress, and formulate targeted interventions.

Importance of Family Well-Being Index

The Family Well-Being Index (FWBI) provides a national benchmark for monitoring well-being, identifying emerging concerns, evaluating programmes, and establishing development priorities (Ahmad & Noor, 2021; Department of Statistics Malaysia [DOSM], 2011, 2011, 2011). It also supports national agendas by informing policies related to financial security, healthcare, education, and infrastructure (Economic Planning Unit, 2019).

Localising the FWBI in KETENGAH helps reveal rural and semi-rural disparities that national averages may conceal, including challenges in sanitation, housing, water supply, and economic opportunities (Omar et al., 2020). Its inclusion of spirituality and family cohesion also makes it culturally relevant to Malaysia and supports evidence-based policymaking (Helliwell et al., 2020; Noor et al., 2014; Razak, 2019).

RESEARCH METHODOLOGY

This study employed a mixed-methods design to assess family well-being within the Central Terengganu Development Authority (KETENGAH) region. The Malaysian Family Well-Being Index (FWBI) developed by the National Population and Family Development Board (LPPKN) was used as the conceptual reference. Rather than applying the national instrument without modification, the indicators were contextualised to reflect the socioeconomic characteristics, settlement patterns, infrastructure accessibility and service-delivery conditions of KETENGAH. The localised questionnaire therefore incorporated household economy and work balance, housing and neighbourhood conditions, technology and communication, family relationships and financial adequacy, education, social involvement, spiritual practices and family values, transportation and logistics, family safety, and family health.

To operationalise the adapted Family Well-Being Index (FWBI) within the KETENGAH context, the questionnaire was structured around a series of localised well-being dimensions and indicators. These indicators were derived from the broader Malaysian FWBI framework and contextualised to reflect the socioeconomic conditions, service accessibility, infrastructure characteristics, and community dynamics of the KETENGAH region. The selected indicators were subsequently measured through respondents' satisfaction ratings and analysed to identify relative strengths, weaknesses, and priority areas for intervention. Table 1 summarises the localised dimensions and indicators incorporated into the questionnaire.

Table 1: Localised FWBI dimensions and indicators used in the KETENGAH survey

Localised dimension	Indicators
Household economy & work balance	Satisfaction with career opportunities, workload, wage adequacy, and income relative to living costs.
Housing & neighbourhood	Satisfaction with electricity supply, living environment, internet availability, waste management, and 3R practices.
Technology & communication	Satisfaction with internet access, internet speed, and telecommunication costs.
Family well-being	Satisfaction with family relationships, family safety, and financial adequacy.

Localised dimension	Indicators
Education	Satisfaction with education quality, institutional safety, access, affordability, and education system effectiveness.
Social involvement	Satisfaction with neighbourhood relations, social activities, and arts and cultural participation.
Spiritual practices & family values	Satisfaction with personal spiritual practices, religious tolerance, and community religious participation.
Transportation & logistics	Satisfaction with road accessibility, signboards, road quality, public transport, and e-hailing services.
Family safety	Satisfaction with residential safety, street lighting, and police/fire services.
Family health	Satisfaction with clean water, environmental cleanliness, and healthcare facilities.

Respondents rated the satisfaction items using a four-point Likert scale: 1 = Very Dissatisfied, 2 = Dissatisfied, 3 = Satisfied and 4 = Very Satisfied. The scale was subsequently transformed into Relative Importance Index (RII) values to facilitate comparison across indicators.

The Relative Importance Index was calculated as

$$RII = \frac{\sum (W \times n)}{A \times N}$$

where W is the assigned weight, n is the response frequency, A is the maximum weight (4), and N is the total number of respondents (400). RII values range from 0 to 1, with higher values indicating greater relative satisfaction. The RII was used descriptively and does not imply statistical significance or causality.

Spearman's rho correlation was used to examine associations between selected respondent characteristics such as age, household income and household size and satisfaction with well-being indicators. A two-tailed significance level of $p < 0.05$ was used. The analysis was intended to identify statistical associations rather than causal effects.

The qualitative component comprised semi-structured interviews and focus group discussions with KETENGAH representatives, local residents, community leaders, agency officials and relevant service providers selected through convenience sampling. The discussions focused on household economic conditions, access to infrastructure and public services, community relationships, and key challenges affecting family well-being. Responses were analysed thematically to identify recurring issues and to contextualise the quantitative findings.

Using stratified sampling with district-based allocation, 400 respondents were selected from Dungun (35%), Kemaman (35%), and Hulu Terengganu (30%), as shown in Table 2. Descriptive statistics were used to establish household profiles and well-being patterns, while the Relative Importance Index (RII) ranked the indicators according to respondents' priorities. The sample size was adequate for the study design, although the district allocation and demographic concentration limit population-wide generalisation.

Table 2: Distribution of total respondents based on districts

District	No. of Target Respondent	Percentage (%)
Dungun	140	35.0
Kemaman	140	35.0
Hulu Terengganu	120	30.0
Total	400	100.0

Source: Author's Calculation

ANALYSIS AND DISCUSSION

This study included 400 respondents who represented households in the KETENGAH region. Table 3 shows the socio-demographic characteristics of the participants with gender, ethnicity, marital status, age, educational level, employment, and household income, as well as the length of residence in KETENGAH.

Table 3 Detailed background on respondent's profile

Variable	Category	Frequency	Percentage (%)
Gender	Male	224	56.0
	Female	176	44.0
Ethnicity	Malay	390	97.5
	Chinese	0	0.0
	Indian	0	0.0
	Others	10	2.5
Marital Status	Single	47	11.8
	Married	297	74.3
	Divorced/Widowed	56	14.0
Age	15-24 years	27	6.8
	25-34 years	54	13.5
	35-44 years	82	20.5
	45-55 years	89	22.3
	55-64 years	81	20.3
	Above 64 years	67	16.8
Educational Attainment	No Certificate	113	28.2
	PMR or equivalent	62	15.5
	SPM or equivalent	124	31.0

Variable	Category	Frequency	Percentage (%)
	STPM or equivalent Certificate	20	5.0
	Diploma	24	6.0
	Bachelor's Degree	36	9.0
	Master/PhD	14	3.5
		7	1.8
Employment Status	Employed	273	68.3
	Unemployed	127	31.7
Household Income	Less than RM2,000	235	58.8
	RM2,000-RM2,999	83	20.8
	RM3,000-RM3,999	48	12.0
	RM4,000-RM4,999	19	4.8
	RM5,000-RM5,999	5	1.3
	RM6,000-RM6,999	2	0.5
	RM7,000-RM7,999	3	0.8
	RM9,000-9,999	1	0.3
	More than RM10,000	4	1.0
Duration of Stay in KETENGAH	1-3 years	5	1.3
	3-6 years	12	3.0
	6-8 years	6	1.5
	8-10 years	10	2.5
	10-12 years	11	2.8
	12-14 years	3	0.8
	More than 14 years	353	88.3

Source: Author's Calculation

The sample was predominantly Malay (97.5%), married (74.3%), middle-aged, and long-established in KETENGAH, with 88.3% having lived in the region for more than 14 years. Most respondents were employed (68.3%), while household income was generally low, with 58.8% earning below RM2,000 per month. Educational attainment was relatively modest, with 31.0% completing SPM and 28.2% having no formal certificate. These characteristics provide important context for interpreting the findings, which primarily reflect the experiences of long-established Malay households and may underrepresent ethnic minorities, recent residents, and more mobile population groups.

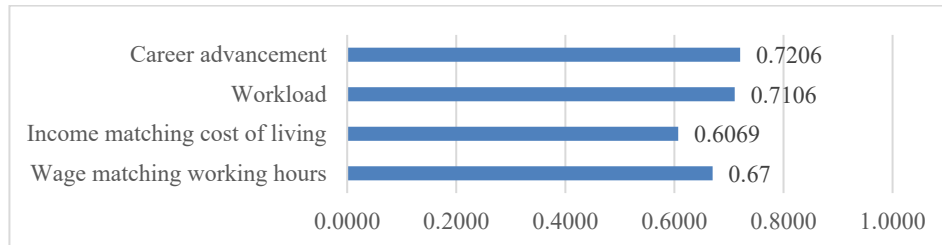


Figure 1: Results of the RII calculation for respondent's household economy and work balance in KETENGAH
 Source: Author's Calculation (2024)

Figure 1 presents the RII results for household economy and work balance. According to the Relative Importance Index (RII) analysis, career advancement recorded the highest satisfaction-based RII within the household economy and work-balance dimension (RII = 0.7206), followed by workload (RII = 0.7106), wage compatibility with working hours (RII = 0.6700), and income adequacy relative to the cost of living (RII = 0.6069). The comparatively low rating for income adequacy indicates greater dissatisfaction with household purchasing capacity and suggests that cost-of-living pressures warrant policy attention.

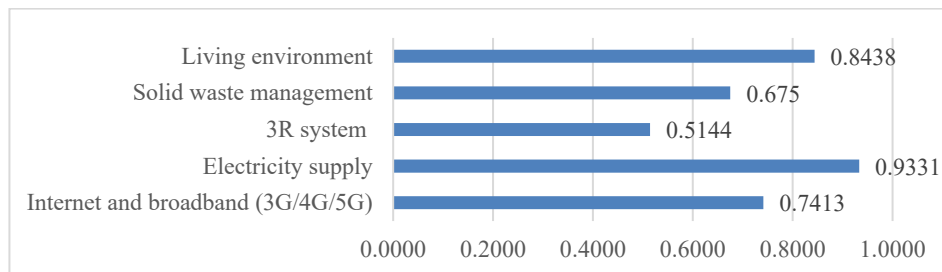


Figure 2: Results of the RII calculation for respondent's housing and neighbourhood in KETENGAH
 Source: Author's Calculation (2024)

Figure 2 shows that electricity supply recorded the highest satisfaction-based RII (0.9331), followed by the living environment (0.8438) and internet and broadband availability (0.7413). Solid waste management (0.6750) and the 3R system (0.5144) received comparatively lower ratings.

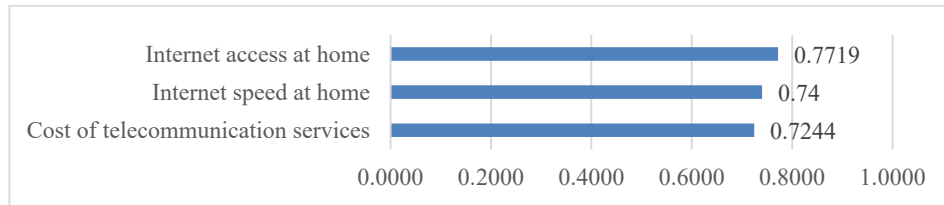


Figure 3: Results of the RII calculation for technology and communication in KETENGAH

Source: Author's Calculation (2024)

As can be seen in Figure 3 of the RII results, internet access at home recorded the highest RII (0.7719), followed by internet speed (0.7400) and telecommunication costs (0.7244). The relatively small differences suggest comparable levels of satisfaction across the three technology and communication indicators.

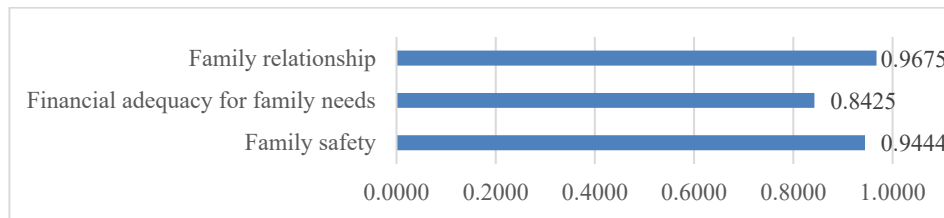


Figure 4: Results of the RII calculation for respondent's family well-being in KETENGAH

Source: Author's Calculation (2024)

In the sphere of family well-being, family relationships recorded the highest RII (0.9675), followed by family safety (0.9444) and financial adequacy for family needs (0.8425). The results indicate comparatively higher satisfaction with relational and safety aspects than with financial adequacy.

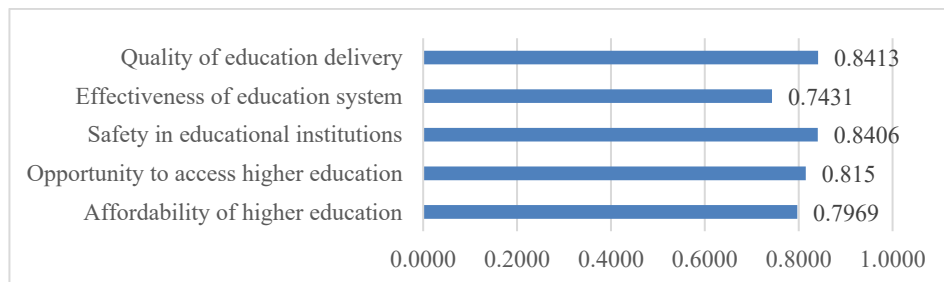


Figure 5: Results of the RII calculation for education in KETENGAH

Source: Author's Calculation (2024)

Within the education dimension, quality of education delivery (RII = 0.8413) and safety in educational institutions (RII = 0.8406) received the highest satisfaction ratings. These were followed by access to higher education (0.8150), affordability of higher education (0.7969), and effectiveness of the education system (0.7431).

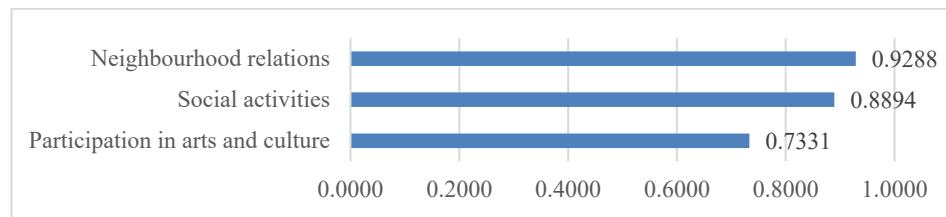


Figure 6: Results of the RII calculation for respondent's social involvement in KETENGAH

Source: Author's Calculation (2024)

With regards to social participation in Figure 6, neighbourhood relations recorded the highest RII (0.9288), followed by social activities (0.8894), while participation in arts and culture recorded a comparatively lower rating (0.7331). This pattern indicates stronger satisfaction with everyday neighbourhood and social interaction than with arts and cultural participation.

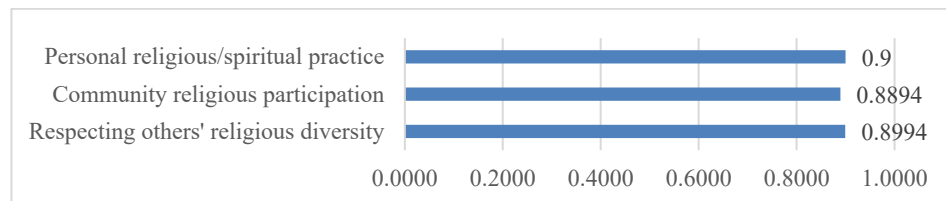


Figure 7: Results of the RII calculation for respondent's spiritual practices and family values in KETENGAH

Source: Author's Calculation (2024)

Figure 7 showed that the personal religious or spiritual practice recorded the highest RII (0.9000), followed closely by respect for religious diversity (0.8994) and community religious participation (0.8894). The closely grouped ratings indicate consistently high satisfaction across the spiritual and family-values indicators.

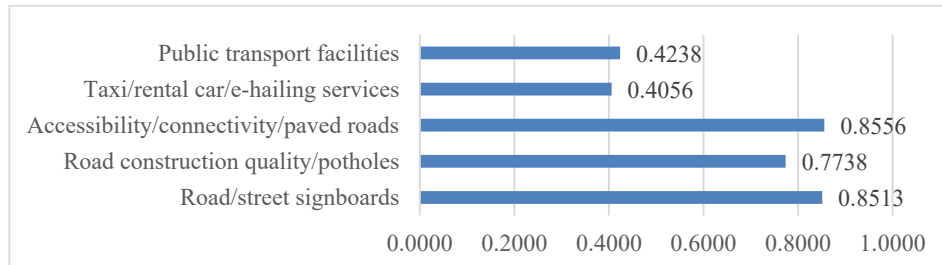


Figure 8: Results of the RII calculation for respondent's transportation and logistics in KETENGAH

Source: Author's Calculation (2024)

The situation was different in Figure 8 with transportation and logistics. Accessibility and paved roads (RII = 0.8556) and road or street signboards (RII = 0.8513) received relatively high ratings, followed by road quality (0.7738). In contrast, public transport (0.4238) and taxi or e-hailing services (0.4056) recorded the lowest satisfaction ratings.

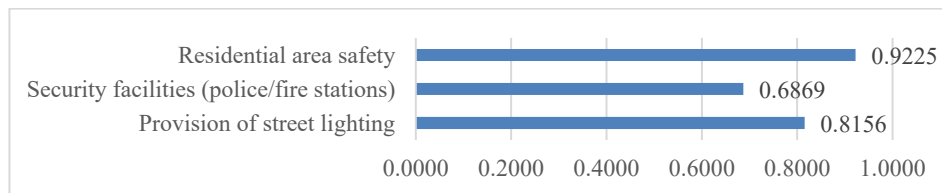


Figure 9: Results of the RII calculation for respondent's family safety in KETENGAH

Source: Author's Calculation (2024)

With respect to family safety in Figure 9, residential-area safety recorded the highest RII (0.9225), followed by street-lighting provision (0.8156). Police and fire services received a lower rating (0.6869), indicating comparatively lower satisfaction with institutional safety provision.

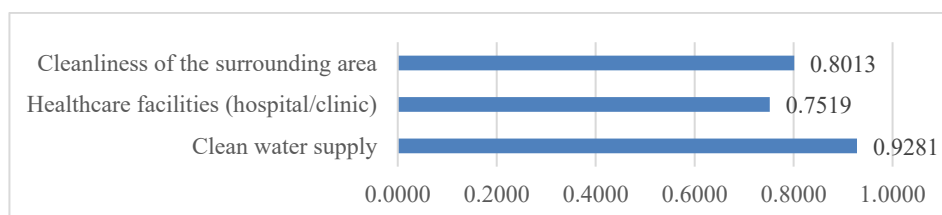


Figure 10: Results of the RII calculation for respondent's family health in KETENGAH

Source: Author's Calculation (2024)

Basic infrastructure needs are further indicated in health-related indicators in Figure 10. Clean water supply recorded the highest RII (0.9281), followed by cleanliness of the surrounding area (0.8013) and healthcare facilities (0.7519). The results indicate comparatively higher satisfaction with basic environmental health conditions than with healthcare-facility provision.

Spearman's rho analysis indicated several statistically significant, although generally weak to moderate, associations between household characteristics and well-being indicators. Household income was negatively associated with satisfaction with the living environment ($\rho = -0.312$, $p < 0.001$), affordability of higher education ($\rho = -0.211$, $p < 0.001$), road construction quality ($\rho = -0.338$, $p < 0.001$), residential-area safety ($\rho = -0.158$, $p = 0.002$), and cleanliness of the surrounding area ($\rho = -0.401$, $p < 0.001$). Household size showed positive associations with family relationships ($\rho = 0.153$, $p = 0.002$), neighbourhood relations ($\rho = 0.198$, $p < 0.001$), and clean-water supply ($\rho = 0.166$, $p < 0.001$). Age was negatively associated with internet access at home ($\rho = -0.106$, $p = 0.034$) and access to healthcare facilities ($\rho = -0.167$, $p < 0.001$). These results indicate that selected dimensions of well-being vary systematically across household characteristics, but the observed correlations should not be interpreted as causal effects.

The Family Well-Being Index (FWBI) provides a holistic assessment of household well-being across social, economic, and environmental dimensions.

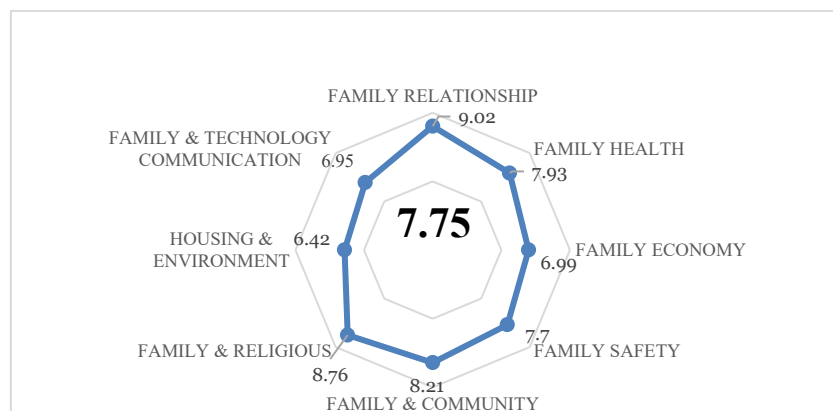


Figure 11: Results of the Family Well-Being Index in KETENGAH
 Source: Author's Calculation (2024)

Family Relationships recorded the highest FWBI score (9.02), followed by Religious and Spiritual Practices (8.76) and Family and Community (8.21). Lower scores were recorded for Family Economy (6.99), Communication Technology (6.95), and Housing and Environment (6.42).

KETENGAH recorded an overall FWBI score of 7.75. Despite strong family, spiritual and community dimensions, comparatively weaker economic and infrastructural conditions remain (Ahmad & Noor, 2021).

COMPARISON WITH MALAYSIA NATIONAL FAMILY WELL BEING INDEX

KETENGAH's FWBI scores were benchmarked against the Malaysian FWBI 2022 to identify relative strengths and weaknesses across domains, as shown in Table 4.

Table 4: Comparison of KETENGAH and Malaysia Family Well-Being Index Scores

Domain	KETENGAH FWBI Score	Malaysia FWBI 2022 Score
Family Relationships	9.02	8.44
Family Health	7.93	8.07
Family Economy	6.99	6.90
Family Safety	7.70	7.69
Family & Community Involvement	8.21	8.24
Family, Religious Roles & Spiritual Practices	8.76	8.37
Housing & Environment	6.42	7.55
Family & Communication Technology	6.95	8.18
Overall FWBI Score	7.75	7.93

Source: Malaysian Family Well-Being Index 2022 and Author's Calculation

KETENGAH's overall FWBI score of 7.75 was slightly lower than the 2022 national score of 7.93. However, KETENGAH performed better in Family Relationships (9.02 versus 8.44) and Religious Roles and Spiritual Practices (8.76 versus 8.37), reflecting strong family support, social trust, and spirituality (Noor et al., 2014).

In contrast, KETENGAH recorded lower scores for Housing and Environment (6.42 versus 7.55) and Communication Technology (6.95 versus 8.18), indicating weaknesses in housing, environmental services, and digital access (Omar et al., 2020). Family Economy scores were broadly comparable (6.99 in KETENGAH and 6.90 nationally), suggesting that economic pressure is not unique to the study area (Razak, 2019; Stiglitz et al., 2018). Overall, the findings support locally tailored interventions for semi-rural communities.

RECOMMENDATION

The FWBI findings for KETENGAH indicate the need for policies that address structural weaknesses while preserving strong family, spiritual, and neighbourhood relationships. Economic interventions should strengthen income security through skills training, employment diversification, income-generating opportunities, and targeted assistance for low-income households (Razak, 2019; Stiglitz et al., 2018).

Policies should also improve housing quality, waste management, affordable broadband access, road conditions, and public transportation (Omar et al., 2020). These measures would enhance access to employment, education, healthcare, and digital services. Meanwhile, community organisations and participatory programmes should continue to reinforce social cohesion and resilience (Helliwell et al., 2020; Noor et al., 2014). Overall, an integrated and locally adapted approach is required to improve family well-being in KETENGAH.

For regional planning practice, these findings suggest that KETENGAH should integrate selected FWBI indicators into programme design, infrastructure prioritisation and development monitoring. Lower-performing indicators, particularly public transport, environmental management, income adequacy and digital connectivity, can be used to identify areas requiring targeted intervention, while high-performing domains such as family relationships and community cohesion should be preserved through community-based programmes. Periodic household-based monitoring would allow KETENGAH and relevant state agencies to evaluate whether infrastructure and socioeconomic interventions result in measurable improvements in family well-being.

CONCLUSION

This study applied the Family Well-Being Index (FWBI) and Relative Importance Index (RII) to assess family well-being in KETENGAH. Family relationships, religious values, neighbourhood cohesion, household safety, and clean water access emerged as key strengths. Lower performance was observed in income security, housing, waste management and transportation, alongside an overall FWBI score of 7.75.

The findings support targeted interventions involving skills development, income diversification, improved environmental and housing services, and affordable rural transportation. Future studies should use longitudinal and cross-regional data to strengthen locally responsive family well-being policies.

ETHICS

The study followed standard research ethics procedures. Participants were informed of the study objectives and participated voluntarily. Confidentiality and anonymity were maintained, and the data were used solely for academic purposes.

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