

Identifying Multidimensional Indicators for the Orang Asli Socio-Development Index Instrument

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Abstract

This study examines the need for a socio-development index instrument for the Orang Asli community in Perak, Malaysia. Existing development measurements are often based on general indicators that do not fully reflect the multidimensional realities, cultural values, and lived experiences of the Orang Asli community. Therefore, this study aims to identify the multidimensional indicators and sub-indicators for an Orang Asli socio-development index instrument using the Nominal Group Technique (NGT). The study involved twenty Orang Asli representatives who participated in group discussions to identify and prioritise the dimensions of the socio-development index instrument. The findings revealed nine main indicators and thirty-three sub-indicators relevant to the socio-development index for the Orang Asli community. Among these, land recognition emerged as the highest priority, followed by cultural heritage empowerment, policy and legislation, level of educational achievement, economic empowerment, level of healthcare, infrastructure development, environmental sustainability, and leadership empowerment. The findings demonstrate that socio-development among the Orang Asli extends beyond economic aspects to include social, cultural, educational, and well-being dimensions. This study contributes to the development of a more holistic and context-specific socio-development index instrument that may assist policymakers, government agencies, and relevant stakeholders in planning and evaluating development initiatives that are more relevant and better aligned with the needs and identity of the Orang Asli community.

Keywords: Socio-Development, Index Instrument, Multidimensional Indicators, Orang Asli, Nominal Group Technique (NGT)

Introduction

The concept of development has evolved significantly over time. It is no longer defined merely by economic growth or income but is now understood as a multidimensional process that encompasses improvements in well-being, social inclusion, and environmental sustainability. In this broader sense, development is about enhancing quality of life and enabling individuals to participate meaningfully in society. This paradigm shift is reflected in global frameworks such as the Sustainable Development Goals (SDGs), which emphasize inclusive development and the principle of leaving no one behind (Mensah et al., 2022). In Malaysia, similar commitments are evident in national development policies that promote balanced growth and equitable opportunities. However, despite these efforts, certain communities particularly the Orang Asli continue to experience persistent development gaps (Dong et al., 2022; Rosnon & Talib, 2019).

This indicates that current approaches may not fully reflect their lived realities and highlights the need for more context sensitive and multidimensional measures of socio-development. The issue of Orang Asli socio-development has become increasingly important in contemporary development discourse because Orang Asli communities are often among the most vulnerable and marginalized communities in terms of access to basic services, economic opportunities, and social inclusion (Jamaludin et al., 2025; Zulkipli et al., 2021). Understanding their socio-development conditions is essential not only for reducing inequalities but also for ensuring that national development policies are inclusive, culturally sensitive, and sustainable. In this regard, the assessment of Orang Asli socio-development requires approaches of capturing the complexity of their social, economic, environmental, and cultural realities (Zulkipli et al., 2026).

The Orang Asli, as the indigenous peoples of Peninsular Malaysia, comprise diverse sub-ethnic groups with distinct cultural practices, knowledge systems, and livelihoods. In Perak, communities such as the Temiar, Semai, and Lanoh are located in varied settings, ranging from remote forest areas to resettlement schemes near urban centres. Although government agencies such as JAKOA have implemented various development programmes, many Orang Asli communities continue to face structural challenges (Manaf et al., 2021), including limited access to education and healthcare, inadequate infrastructure, and uncertainties over land ownership (Zulkipli et al., 2021). Furthermore, their traditional livelihoods, which are closely tied to forest resources and subsistence agriculture, are increasingly affected by environmental changes and external development pressures. These realities indicate that conventional development approaches may not adequately capture the complexity of Orang Asli well-being.

Existing research on Orang Asli development has largely focused on specific dimensions such as income, education, or land issues (Zulkipli et al., 2021). While such studies provide valuable insights, they often present a fragmented understanding that fails to capture the multidimensional nature of community well-being. This limitation is further compounded by the use of mainstream development indicators that emphasize universal measures such as income, employment, and educational attainment, while overlooking culturally specific dimensions of well-being (Ismail et al., 2026). As a result, current assessments may not fully reflect the lived realities of the Orang Asli, particularly in diverse contexts such as Perak,

where settlement patterns and community characteristics vary widely. Consequently, development initiatives risk being misaligned with local needs and may produce limited or uneven impacts. This study has identified a lack of measurement for assessing the socio-development of the Orang Asli community holistically. Despite facing various challenges, the absence of a suitable measurement tool complicates efforts to achieve effective socio-development for the Orang Asli community (Zulkipli et al., 2026).

The absence of socio-development measurement instrument also limits the ability of policymakers, government agencies and development practitioners to evaluate the actual of existing development programs implemented within Orang Asli communities. Without a specific assessment tool, socio-development planning may rely heavily on generalized indicators that do not adequately represent Orang Asli needs, priorities and cultural values. Consequently, there is a risk that socio-development interventions may fail to address the actual needs of the Orang Asli community with holistic.

Therefore, there is a clear need for a more holistic and context specific approach to measuring Orang Asli socio-development index instrument. A comprehensive socio-development index instrument that integrates multiple dimensions of well-being is essential to better understanding and evaluating their socio-development status. Such an index instrument would not only provide a more accurate reflection of Orang Asli community realities but also support more effective policy formulation, monitoring, and evaluation. This study aims to address this gap by developing a multidimensional socio-development index instrument for the Orang Asli in Perak, contributing more data-informed socio-development planning.

The development of this socio-development index instrument is significant because it provides practical relevance for multiple stakeholders, including policymakers, JAKOA, researchers, and non-governmental organizations involved in Orang Asli community development. The index instrument may serve as a reference for identifying development priorities, evaluating programme effectiveness, and designing more targeted interventions based on the actual needs of Orang Asli communities in Perak (Zulkipli et al., 2021). In addition, this study contributes academically by expanding the discourse on Orang Asli socio-development measurement through a multidimensional and culturally contextualized approach. Ultimately, the study supports the broader agenda of inclusive and sustainable development by ensuring that Orang Asli communities are more accurately represented within national development assessments and planning processes.

Method

This study employed the Nominal Group Technique (NGT), developed by Delbecq et al. (1975), which has been widely applied across health, education, and social science fields for its effectiveness in generating and prioritising ideas (Delbecq et al., 1975; Mohd Fairus Md et al., 2023). NGT combines qualitative and semi-quantitative approaches through structured group interaction, beginning with idea generation followed by systematic discussion and ranking to establish priorities (Dang, 2015). In this study, NGT was used in the initial phase to identify indicators and sub-indicators for the Orang Asli socio-development index instrument through structured group discussion facilitated by a moderator. The facilitator ensured neutrality, managed the discussion process, and encouraged equal participation without influencing responses (Yahaya et al., 2020). This process ensured that all

participants contributed equally, minimising dominance by more vocal individuals and encouraging input from quieter members, thereby strengthening the representation of diverse perspectives within the Orang Asli community (Siraj et al., 2020). The structured and problem-focused nature of NGT also supported objective prioritisation of socio-development issues while reducing group bias (Chiwire et al., 2022; Mullen et al., 2021; Yahaya et al., 2020).

Participant

The study involved 20 participants from various Orang Asli communities, including the Semai, Temiar, Jahai, Jakun, and Kintak groups. Participants were selected to ensure variation in age, gender, and geographical location, particularly representing both remote and resettled communities. The sample size was considered appropriate given the participants lived experience and knowledge of community development issues. The selection of Orang Asli participants was justified as they are regarded as the original inhabitants with deep contextual understanding and lived experience relevant to the study context (Masnan et al., 2021; Zulkipli et al., 2021).

Data Collection

Data was collected through an interactive workshop involving all selected participants. The workshop format facilitated the NGT process in a structured and convenient manner, allowing participants to actively generate and discuss indicators and sub-indicators. This setting encouraged engagement while ensuring that all participants could contribute their ideas in a focused and systematic environment.

Data Analysis

In this study, the Nominal Group Technique (NGT) procedure consisted of five sequential steps (Mullen et al., 2021). The procedure is as follows:

Step 1: Briefing on the Research

The facilitator began by introducing the study on the development of a multidimensional socio-development index instrument for the Orang Asli in Perak. Participants were briefed on the background, objectives, and importance of identifying indicators that reflect the socio-development conditions of the community (Abdullah et al., 2025; Zulkefli et al., 2023). This step ensured that all participants understood that their contributions would directly inform the construction of the Orang Asli socio-development index instrument.

Step 2: Silent Generation Idea

Participants were then asked to individually generate ideas on potential indicators and sub-indicators that represent the socio-development of the Orang Asli community. These ideas were directly linked to aspects such as education, health, land, culture, economy, infrastructure, environment, and leadership. Each participant recorded their responses on sticky notes without discussion, ensuring that the proposed indicators reflected lived experiences and contextual knowledge of Orang Asli development realities.

Step 3: Round Robin Sharing

All identified indicators and sub-indicators were collected and presented by the facilitator on a board one by one. Each idea was shared in turn without discussion or evaluation at this stage. This process ensured that all proposed dimensions of Orang Asli socio-development were

equally represented and visible to the group, forming an initial pool of indicators for the index instrument.

Step 4: Discussion of Ideas

Participants then engaged in discussion to clarify and refine the listed indicators. Similar ideas were grouped into broader thematic dimensions relevant to Orang Asli socio-development, such as land recognition, cultural preservation, education access, and economic empowerment. Importantly, no ideas were removed during this process, ensuring that all perspectives contributed to the development of a holistic and culturally grounded socio-development index instrument.

Step 5: Voting Ideas

In the final step, participants evaluated and prioritised the identified indicators and sub-indicators through a questionnaire. Each participant independently rated the importance of each item in relation to its relevance in measuring Orang Asli socio-development (Mustapha et al., 2022). The data were analysed using Microsoft Excel to determine total scores and percentage agreement. Indicators that achieved at least 70% agreement (Anis et al., 2022) were retained as core components of the Orang Asli socio-development index instrument.

Results and Discussion

Profile of the Participants

Table 1 presents the demographic profile of the participants involved in the Nominal Group Technique (NGT) session, including gender, work experience, and sub-ethnic group. In terms of gender, the majority of participants were male (N = 15, 75.0%), while female participants accounted for 25.0% (N = 5). Regarding work experience, 45.0% of participants (N = 9) had between 5 and 10 years of experience, followed by 35.0% (N = 7) with 11 to 20 years of experience, and 20.0% (N = 4) with more than 21 years of experience. Based on sub-ethnic representation, most participants were from the Semai group (N = 14, 70.0%), followed by the Temiar (N = 2, 10.0%) and Jahai (N = 2, 10.0%) groups, while the Jakun and Kintak sub-ethnic groups each accounted for 5.0% of participants (N = 1) respectively.

Table 1

Profile of the participants

Profile Participants of the Participants		Frequency (N)	Percentage (%)
Gender	Male	15	75
	Female	5	25
Working Experience	5 years - 10 years	9	45
	11 years - 20 years	7	35
	21 years and above	4	20
Sub-Ethnics	Semai	14	70
	Temiar	2	10
	Jahai	2	10
	Jakun	1	5
	Kintak	1	5
Total		20	100

Findings of NGT: Identifying Multidimensional Indicators of the Orang Asli Socio-Development Index Instrument

The use of NGT in this study aimed to identify multidimensional indicators and sub-indicators for the Orang Asli socio-development index instrument. As shown in Table 2, the indicators of the index instrument were ranked and prioritised based on the total scores from participants' voting using a Likert scale ranging from 1 (extremely unimportant) to 7 (extremely important). The identified indicators were not removed at the final stage because all dimensions achieved a consensus level of $\geq 70\%$. This indicates that all participants agreed to include all nine indicators in the index instrument.

Table 2

List of Indicators and sub-indicators of the Orang Asli Socio-Development Index Instrument

No	Indicators and Sub-Indicators	Total Score	Percent	Status	Rank
Level of Educational Achievement		133	95%	Accepted	4
1	Completion of Schooling	129	92.1%	Accepted	4
2	Educators among the Orang Asli	123	87.9%	Accepted	5
3	Level of Literacy	137	97.9%	Accepted	1
4	Skills Training	130	92.9%	Accepted	3
5	Admission to Public and Private Higher Education Institutions (IPTA/IPTS)	132	94.3%	Accepted	2
Complete Infrastructure		130	92.9%	Accepted	7
1	Social Amenities	134	95.7%	Accepted	1
2	Public Facilities	133	95%	Accepted	2
3	Residential Facilities	132	94.3%	Accepted	3
4	Digital Communication Facilities	130	92.9%	Accepted	4
Economic Empowerment		132	94.3%	Accepted	5
1	Orang Asli Entrepreneurial Performance	134	95.7%	Accepted	1
2	Equity Savings	133	95%	Accepted	2
3	Employment	131	93.6%	Accepted	3
4	Household Income	130	92.9%	Accepted	4
5	Household Indebtedness	127	90.7%	Accepted	5
Environmental Sustainability		130	92.9%	Accepted	8
1	Orang Asli Participation in Forest Conservation and Restoration	137	97.9%	Accepted	1

2	Level of Pollution	131	93.6%	Accepted	2
Leadership Empowerment		129	92.1%	Accepted	9
1	Orang Asli Involvement in Non-Government Organizations (NGOs)	131	93.6%	Accepted	2
2	Institution of Batin and Community Leadership	134	95.7%	Accepted	1
3	Orang Asli Participation in Politics	129	92.1%	Accepted	3
Land Recognition		136	97.1%	Accepted	1
1	Gazettement of Orang Asli Land	135	96.4%	Accepted	3
2	Land Ownership	138	98.5%	Accepted	1
3	Rights of Access to Land	137	97.9%	Accepted	2
Level of Health Care		131	93.6%	Accepted	6
1	Level of Health	127	90.7%	Accepted	2
2	Accessibility of Health Services	134	95.7%	Accepted	1
Policy and Legislation		132	94.3%	Accepted	3
1	National Commitment to International Instruments	124	88.6%	Accepted	4
2	National Commitment to Constitutional and Legal Provisions	133	95%	Accepted	2
3	Gender Equality and Empowerment	132	94.3%	Accepted	3
4	Implementation of Free, Prior and Informed Consent (FPIC) and Self-Determination	137	97.9%	Accepted	1
Cultural Heritage Empowerment		135	96.4%	Accepted	2
1	Status Enhancement of Orang Asli Languages	134	95.7%	Accepted	3
2	Participation in Cultural Events	133	95%	Accepted	4
3	Customary Law and Beliefs	137	97.9%	Accepted	1
4	Indigenous Knowledge	136	97%	Accepted	2
5	Recognition of Contribution to Nation-Building	131	93.6%	Accepted	5

Note: Acceptance percentage $\geq 70\%$

Referring to Table 2, the study identified indicators and sub-indicators as the foundation of the socio-development index instrument for evaluating the development of Orang Asli communities in Perak. The findings indicated that “land recognition” received the highest level of importance compared to other indicators. In particular, “land ownership” and “rights of access to land” were strongly supported by participants (Celesistinus & Zakaria, 2021). These findings highlight the fundamental role of secure land tenure in the social, cultural, and economic development of Orang Asli communities (Abidin & Wee, 2017). Beyond economic value, land is deeply embedded in cultural heritage, spiritual practices, and communal belonging (Shaari et al., 2025). As affirmed by the Human Rights Commission of Malaysia (SUHAKAM), land represents “the life of their culture, identity and survival” and is central to sustaining social cohesion and customary practices across generations (Malaysia, 2013; Wook et al., 2022).

The findings also revealed that “cultural heritage empowerment” is a highly pertinent dimension within the socio-development index instrument for the Orang Asli in Perak. Rather than being a supplementary element, cultural heritage is a foundational component that supports social cohesion, intergenerational knowledge transfer, and community resilience (Sangha et al., 2024). This indicator contributes to sustainable and equitable development by ensuring that policies and interventions respect Orang Asli identity and knowledge systems (Diansyah et al., 2022). For the Orang Asli, the preservation of language, customs, and indigenous knowledge strengthens community confidence, reinforces social bonds, and supports adaptive responses to socio-economic change (Letchamanan et al., 2021; Sartori et al., 2023). This aligns with broader Orang Asli well-being perspectives that prioritise relational well-being, cultural survival, and self-determined development pathways (Samsudin et al., 2021).

In addition, “policy and legislation” emerged as an important institutional dimension supporting the socio-development index instrument. The findings reflect strong consensus that sustainable socio-development cannot be achieved without robust, rights-based policies and effective legal mechanisms that protect Indigenous interests (Celesistinus & Zakaria, 2021; Shaari et al., 2025). This indicator captures the extent to which governance structures recognise, safeguard, and operationalise Orang Asli rights in development planning and implementation (Khan et al., 2021).

Nonetheless, based on participants’ consensus, environmental sustainability was perceived as one of the less prioritised indicators. For the Orang Asli, the natural environment remains a vital source of livelihood as well as a foundation of cultural identity, traditional knowledge, and community well-being. Although less prioritised in comparison to other dimensions, its strong acceptance indicates that environmental sustainability is still recognised as inseparable from socio-development outcomes. This suggests that environmental considerations remain important, particularly in sustaining long-term community resilience and well-being (Jamaludin et al., 2025).

Interestingly, “leadership empowerment” was identified as the least prioritised indicator among all dimensions. While leadership empowerment is widely acknowledged as important, it is relatively less emphasised in the context of the Orang Asli socio-development index instrument (Zulkipli et al., 2021). Nevertheless, the strong level of agreement still reflects a

shared understanding that effective leadership is essential for guiding community development, representing collective interests, and ensuring that development initiatives are responsive to local (Guleng et al., 2023; Isa et al., 2025). As such, leadership empowerment remains a foundational governance element that influences the overall effectiveness of the socio-development index instrument for the Orang Asli.

Conclusion

In conclusion, this study identified a set of multidimensional indicators and sub-indicators that form a foundation for developing the Orang Asli socio-development index instrument. The findings show that land recognition, cultural heritage empowerment, policy and legislation are the core indicators of Orang Asli socio-development, while education, economic empowerment, health, infrastructure, environmental sustainability, and leadership empowerment serve as supporting indicators. This pattern indicates that Orang Asli development goes beyond conventional socio-economic measures and is strongly rooted in issues of land rights, cultural identity, and institutional support. Although all indicators received strong consensus from participants, the study suggests that the index instrument should be further refined to better reflect the diverse lived realities of the Orang Asli community. A more holistic and context-sensitive approach is needed to capture both material and non-material aspects of well-being. Future efforts should involve close collaboration between researchers, policymakers, relevant agencies, and the Orang Asli community to ensure the index instrument remains relevant, practical, and culturally appropriate in supporting inclusive and sustainable development.

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