

A Comparative Study of the Grade 10 Geography Curriculum (Kurikulum Merdeka) in Indonesia and KSSM Form 4 in Malaysia

Indri Lestari^{1,a*}, Dedi Hermon¹, Saiful Adli bin Suhadak², Ravinesh Rohit Prasad^{3,b}

¹Universitas Negeri Padang, Jl. Prof. Dr. Hamka, Kampus Air Tawar, Padang, Sumatra Barat 25171 Indonesia

²Kementerian Pendidikan Kuala Langat, Jalan Sultan Abdul Samad, Banting, Selangor, 42700 Malaysia

³Fiji National University, Kings Road, Nasinu, P.O. Box 7222 Fiji

^ageoindrilestari@gmail.com, ^bravinesh.prasad1@fnu.ac.fj

* corresponding author

ARTICLE INFO	ABSTRACT
Article history Received May 11, 2026 Revised June 08, 2026 Accepted June 19, 2026	Geography as a secondary school subject plays an important role in developing students' spatial literacy, environmental awareness, and regional analysis skills. Curriculum reforms in Indonesia through the Merdeka Curriculum and the implementation of the Kurikulum Standard Sekolah Menengah (KSSM) in Malaysia reflect different approaches to positioning Geography in the school curriculum. This study aims to compare the status of Geography within the secondary school curriculum structures of Indonesia and Malaysia and to analyze their strengths and weaknesses. A qualitative descriptive-comparative method was employed through analysis of official curriculum documents, literature review, interviews, and focus group discussions. Data were analyzed using SWOT analysis. The findings indicate that the Merdeka Curriculum positions Geography flexibly, emphasizing project-based learning, environmental and disaster issues, and geospatial technology. In contrast, KSSM places Geography as a compulsory subject with a consistent national structure, detailed learning standards, and strong emphasis on physical Geography and fieldwork. The study implies that Geography curriculum development should integrate instructional flexibility with clear achievement standards to improve the quality of secondary education.
Keywords Geography; Merdeka Curriculum; KSSM; Curriculum comparison; SWOT analysis.	

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I. Introduction

The curriculum occupies a central position in the education system because it functions as the main framework that directs all learning activities within educational institutions (Ying, 2022; Wrahatnolo, 2018). The curriculum regulates learning planning, the implementation of teaching and learning activities, and the evaluation of students' learning outcomes in a structured manner (Campbell-Phillips, 2020). According to Wahlström (2023), along with the development of global education, the curriculum is viewed as a strategic instrument that reflects the direction of a country's education policy as well as its response to social change, scientific advancement, and labor market demands. This paradigm shift requires curricula to be designed adaptively in order to align with the demands of contemporary developments (Melesse & Belay, 2022).

The conceptualization of curriculum in modern education has expanded considerably compared to traditional approaches (Priestley & Philippou, 2019). The curriculum is understood as a system that encompasses learning objectives, pedagogical strategies, learning

materials, assessment methods, and the roles of teachers and students in the learning process (Yasar & Aslan, 2021). El-Astal (2023) describes the curriculum as a structured description of what is taught, who teaches and is taught, the facilities used, the surrounding learning environment, and the outcomes produced through evaluation processes. This perspective emphasizes the curriculum as an instrument that connects education policy with classroom learning practices (Law, 2022).

In Indonesia, the Merdeka Curriculum policy was developed as an effort to reform the learning system at the primary and secondary education levels. This curriculum provides flexibility for teachers and schools to design learning activities in accordance with the characteristics of students and educational institutions (Sholeh et al., 2024). The learning focus is directed toward strengthening critical thinking skills, creativity, problem-solving abilities, and students' independent learning capacities (Taali et al., 2023). The Ministry of Education, Culture, Research, and Technology emphasizes that the Merdeka Curriculum encourages active student participation through project-

based learning, reflection, and contextual assignments relevant to everyday life.

Malaysia implements the Kurikulum Standard Sekolah Menengah (KSSM) as part of a national strategy to improve educational quality. KSSM is centrally designed to ensure uniform learning outcomes across all secondary schools. This curriculum emphasizes content mastery, the strengthening of national values, and the implementation of 21st-century learning through STEM approaches and project-based learning. Ahmad & Chuah (2015) explain that the standards-based approach in the Malaysian curriculum aims to maintain consistency in graduate quality and to strengthen the integration of digital technology in the learning process.

Differences in education policy approaches between Indonesia and Malaysia reflect varying degrees of centralization in curriculum governance rather than a strict dichotomy between centralized and decentralized systems (Galtar et al., 2024). In Indonesia, the Merdeka Curriculum provides greater flexibility for schools and teachers to adapt learning experiences to students' needs and local contexts. However, key curriculum components, including Learning Outcomes (Capaian Pembelajaran), curriculum structure, and national policy directions, continue to be established by the Ministry of Education, Culture, Research, and Technology. In contrast, Malaysia's KSSM adopts a more centralized and standards-based approach, with detailed content standards and learning standards designed to ensure consistency across schools nationwide. These differences in the degree of curriculum autonomy influence curriculum structure, content organization, assessment practices, and the positioning of subjects within secondary education. Geography is one of the subjects in which these differences are particularly evident, reflecting distinct priorities in curriculum design and educational objectives.

Geography as a strategic subject plays a role in developing spatial literacy, environmental awareness, and the ability to analyze human-environment relationships. The position of Geography within the secondary school curriculum is influenced by national education orientations, whether emphasizing learning flexibility or the standardization of learning outcomes. Differences in curriculum policies between Indonesia and Malaysia have implications for Geography learning objectives, the breadth of content, and the pedagogical approaches applied in the classroom. This condition gives rise to the need for comparative studies to examine the position of Geography within the curriculum systems of both countries.

Several studies have compared educational curricula in Indonesia and Malaysia from different perspectives. Ahmad & Chuah (2015) examined the Malaysian education system and highlighted the advantages of a standards-based curriculum in maintaining consistency of learning outcomes at the national level. Ratnasari (2018) conducted a comparative study of Geography

curriculum implementation at the secondary school level and identified differences in curriculum content organization and assessment practices between the two countries. However, this study was conducted before the introduction of Indonesia's Merdeka Curriculum and therefore focused on earlier curriculum frameworks. More recently, Utami et al. (2025) analyzed curriculum management practices in secondary education and reported a shift in Indonesian curriculum policy toward greater decentralization and school autonomy. Although these studies provide valuable insights into curriculum implementation and policy development, they largely address curriculum systems in a general sense and do not specifically examine the position of Geography within the curriculum structure.

More importantly, the existing literature has not yet explored how the implementation of the Merdeka Curriculum, officially introduced in 2022, has reshaped the status, learning orientation, and curricular role of Geography in comparison with Malaysia's KSSM Form 4. Previous comparative studies were conducted either before the implementation of the Merdeka Curriculum or focused on broader educational policies rather than subject-specific curriculum structures. As a result, there remains limited understanding of how Geography is positioned within the contemporary curriculum frameworks of the two countries and how these differences influence learning objectives, content organization, and pedagogical approaches.

Based on this gap, the present study compares the position of Geography as a subject within the Grade 10 Merdeka Curriculum in Indonesia and the KSSM Form 4 curriculum in Malaysia. The comparison focuses on curriculum structure, learning outcomes, content coverage, learning approaches, and assessment orientations. In addition, this study employs a SWOT analytical framework to evaluate the strengths, weaknesses, opportunities, and threats associated with the implementation of Geography curricula in both countries. To the best of the authors' knowledge, no previous study has specifically compared the post-2022 Merdeka Curriculum and KSSM Form 4 in Geography using a SWOT-based comparative analysis. Therefore, this study contributes to the literature by providing an updated and subject-specific comparison that can inform future Geography curriculum development at the secondary school level.

II. Method

A. Research Design

This study employs a qualitative approach using a descriptive comparative method. This approach was selected because the research objective is directed toward describing, comparing, and interpreting the characteristics of the Geography curriculum in two countries in a systematic manner. The descriptive comparative method encourages researchers to identify similarities and

differences in curricula based on their structure, content, and implementation strategies at the secondary education level. This approach is commonly used in cross-national curriculum comparison studies because it is capable of comprehensively capturing variations in education policies.

To enhance the credibility of the findings, data triangulation was employed by integrating information from curriculum documents, interviews, focus group discussions, questionnaires, and secondary literature. The convergence of evidence from multiple sources enabled cross-validation of findings and reduced potential bias associated with reliance on a single data source. Ethical considerations were observed throughout the study. All

participants were informed about the purpose of the research and voluntarily agreed to participate. Informants were assured that their responses would be used solely for academic purposes and reported anonymously in the study.

B. Data Sources

The data sources in this study consist of primary data and secondary data, which were systematically collected as follows.

Primary data were obtained from official curriculum documents as well as direct information from educational stakeholders. The details of the primary data are presented in Table 1.

Table 1. Primary Research Data

No	Indicator	Country	Data	Data Source	Data Collection Technique
1	Curriculum structure and components	Indonesia	Merdeka Curriculum Geography Grade 10	Official documents of the Ministry of Education, Culture, Research, and Technology	Document analysis
		Malaysia	KSSM Geography Form 4	Documents of the Malaysian Ministry of Education, syllabus, textbooks	Document analysis
2	Teaching and assessment approaches	Indonesia	Learning and assessment strategies	Geography teachers, school principals, teaching guidelines	Interviews, questionnaires, document analysis
		Malaysia	Learning and assessment strategies	Geography teachers, school principals, teaching guidelines	Interviews, questionnaires, document analysis
3	Perceptions and experiences	Indonesia & Malaysia	Curriculum implementation experiences	Teachers, students, education supervisors	Focus group discussions and interviews
4	Learning materials and topics	Indonesia & Malaysia	Geography content coverage	Textbooks, teaching modules, lesson plans	Content analysis
5	Policies and regulations	Indonesia	National curriculum regulations	Policy documents of the Ministry of Education, Culture, Research, and Technology / Ministry of Primary and Secondary Education	Document analysis
		Malaysia	KSSM regulations	Official documents of the Malaysian Ministry of Education	Document analysis

Informants were selected using purposive sampling to ensure that participants possessed direct knowledge and experience regarding Geography curriculum implementation. Selection criteria included involvement in curriculum implementation, school leadership, curriculum supervision, or Geography instruction at the secondary school level. The schools selected in Medan were chosen because they had implemented the Merdeka Curriculum and were accessible for in-depth data collection. The Malaysian participants were selected from schools and educational offices that actively implemented KSSM Geography Form 4. The purpose of informant selection was not statistical representation but the acquisition of rich and relevant information for comparative curriculum analysis.

Secondary data in this study were obtained through a literature review of academic journals and online theses that discuss curriculum implementation and comparative curriculum studies in Indonesia and Malaysia.

C. Data Collection Techniques

1) *Data collection was conducted through the following stages.*

Document analysis was undertaken using official curriculum documents from both countries, including the Merdeka Curriculum Geography Grade 10 documents issued by the Ministry of Education, Culture, Research, and Technology of Indonesia and the KSSM Geography Form 4 documents issued by the Ministry of Education Malaysia. The analysis focused on curriculum structure, learning outcomes, content coverage, learning approaches, assessment systems, and the integration of technology within Geography education.

Semi-structured interviews with educational stakeholders. A total of ten informants participated in the study, comprising five informants from Malaysia and five informants from Indonesia. The Malaysian informants included one education officer from Kuala Langat, two Geography teachers, and two Form 4 school principals.

The Indonesian informants consisted of two Geography teachers, two school principals (SMAS Panca Budi Medan and SMAN 10 Medan), and one lecturer in Geography Education from Universitas Negeri Padang. Informants were selected through purposive sampling based on their direct involvement in curriculum implementation and Geography education.

Interviews were conducted using a semi-structured interview guide covering curriculum implementation, learning approaches, assessment practices, and perceptions of the role of Geography within the curriculum. Each interview lasted approximately 45–60 minutes and was conducted either face-to-face or through online meeting platforms, depending on the availability and location of participants. Interview notes and recordings were reviewed to ensure data accuracy.

Literature review, content analysis of textbooks, teaching modules, and lesson plans, as well as focus group discussions involving selected educational stakeholders. These multiple sources of evidence enabled data triangulation and facilitated cross-validation of findings regarding Geography curriculum implementation in both countries.

D. Data Analysis Techniques

Data analysis was conducted in stages using the SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis approach. This technique was used to evaluate internal and external factors of each curriculum. The stages of data analysis include:

All qualitative data were subjected to thematic analysis. Information related to curriculum structure, learning outcomes, content organization, assessment approaches, technology integration, and curriculum implementation was coded and grouped into major themes. Thematic coding was used to identify recurring patterns and key differences between the Geography curricula of Indonesia and Malaysia.

The themes generated from the coding process were classified into SWOT categories. Internal curriculum characteristics, such as curriculum design, learning standards, and instructional approaches, were categorized as strengths or weaknesses. External factors, including policy support, technological developments, educational trends, and implementation challenges, were categorized as opportunities or threats. The SWOT matrix was therefore developed inductively from the thematic findings rather than being predetermined at the outset of the analysis. Development of a SWOT matrix for each curriculum, followed by a comparison to identify patterns of strengths and challenges.

Separate SWOT matrices were constructed for the Merdeka Curriculum and KSSM Form 4. The matrices were then compared to identify similarities, differences, and emerging patterns regarding the position and

implementation of Geography within both curriculum systems.

The SWOT findings were synthesized using a TOWS matrix to formulate strategic implications and recommendations. The TOWS analysis generated SO (Strength–Opportunity), ST (Strength–Threat), WO (Weakness–Opportunity), and WT (Weakness–Threat) strategies that may support future curriculum development and policy improvement. The credibility of the analysis was strengthened through data triangulation across documents, interviews, focus group discussions, and secondary literature. Findings from different data sources were continuously compared to ensure consistency of interpretation and to reduce potential researcher bias. SWOT analysis was selected because it provides a systematic framework for evaluating curriculum characteristics while simultaneously considering broader educational opportunities and challenges within different national contexts.

III. Results and Discussion

A. The Position of Geography as a Subject within the Secondary School Curriculum Structure in Indonesia and Malaysia

The analysis of the position of Geography as a subject is based on official curriculum documents from each country, namely the Merdeka Curriculum documents issued by the Ministry of Education, Culture, Research, and Technology of the Republic of Indonesia and the KSSM documents issued by the Ministry of Education Malaysia. The comparison focuses on several key aspects, as described below.

1) Curriculum Structure and Organization

Fundamental differences are evident in the structure and organization of Geography as a subject within the curriculum systems of the two countries. A comparison of these structures is presented in Table 3.

Table 2. Structure and Organization of the Geography Subject

Aspect	Merdeka Curriculum (Indonesia)	KSSM Form 4 (Malaysia)
Curriculum position	Phase E (Grade 10)	Form 4
Subject status	Flexible, may be offered as an elective subject	Compulsory subject during Forms 4–5
Scientific cluster	Natural and Social Sciences (IPAS)	Standalone subject
Time allocation	Flexible (±3–5 periods/week)	Fixed (160 minutes/week)
Learning management	Project-based and local-issue oriented	Structured based on domains and standards

Based on Table 2, the Merdeka Curriculum positions Geography in Phase E with a more flexible character in terms of subject status and time allocation. The placement of Geography within the IPAS cluster provides schools with the opportunity to adapt learning to regional characteristics and students' needs. In contrast, KSSM positions Geography as a compulsory subject with a uniform structure and time allocation established at the national level.

2) Learning Outcomes and Achievement Standards

Differences are also observed in the formulation of learning outcomes. The Merdeka Curriculum adopts a phase-based learning outcomes approach, whereas KSSM applies operationally detailed learning standards. A comparison of Geography learning outcomes is presented in Table 3.

Table 3. Comparison of Geography Learning Outcomes

Merdeka Curriculum (Indonesia)	KSSM Form 4 (Malaysia)
Spatial and regional skills	Basic geographical skills
Human–environment interaction	Physical Geography
Resource and environmental management	Human Geography
Disaster risk management	Regional Geography of Southeast Asia
Utilization of geospatial technology	Geography fieldwork and contemporary issues

Based on Table 3, the Geography learning outcomes in the Merdeka Curriculum are organized through phase-based learning outcomes covering spatial and regional skills, human-environment interaction, resource and environmental management, disaster risk management, and the utilization of geospatial technology. In contrast, KSSM Form 4 organizes learning outcomes through content standards and learning standards that encompass basic geographical skills, physical Geography, human Geography, regional Geography of Southeast Asia, and Geography fieldwork.

3) Geography Content and Main Topics

Geography content in both curricula shows similarities in thematic coverage, although with differing levels of depth. A summary of the comparison of main topics is presented in Table 4.

Table 4. Comparison of Geography Subject Content

No	Main Topic	Merdeka Curriculum	KSSM Form 4
1	Basic geographical concepts	Integrated within learning outcome elements	Dedicated and detailed chapters
2	Maps and geospatial technology	GIS, drones, remote sensing	Topographic maps and basic GIS
3	Physical Geography	Brief	Very in-depth

No	Main Topic	Merdeka Curriculum	KSSM Form 4
4	Population and settlement	Population and urban dynamics	Distribution and migration
5	Economic activities	Brief	Not covered
6	Environmental and disaster issues	Highly emphasized	Limited
7	Fieldwork	Pancasila Student Profile projects	Dedicated topics and reports
8	Regional Geography	Flexible	Southeast Asia

Based on Table 4, both curricula share several core Geography topics, although the depth of discussion varies. The Merdeka Curriculum emphasizes environmental issues, disaster studies, and the use of geospatial technology as key components of learning. KSSM allocates substantial attention to physical Geography and regional studies of Southeast Asia with detailed and systematic coverage. These differences indicate variations in Geography learning orientation between the strengthening of contemporary issues and the deepening of classical geographical concepts.

4) Learning and Assessment Approaches

Learning and assessment approaches in the two curricula demonstrate differing pedagogical orientations, as summarized in Table 5.

Table 5. Geography Learning and Assessment Approaches

Aspect	Merdeka Curriculum Grade 10	KSSM Form 4
Approach	Project-based and differentiated learning	School-based and examination-oriented
Assessment	Descriptive learning outcome assessment	SBA, PT3, and SPM
Strategy	Inquiry, PBL, place-based learning	HOTS, i-Think, fieldwork

Table 5 illustrates differences in Geography learning and assessment approaches between the two curriculum systems. The Merdeka Curriculum applies project-based learning and formative assessment focusing on descriptive accounts of students' learning achievements. This approach encourages active student participation in the Geography learning process. In contrast, KSSM continues to integrate school-based assessment and national examinations, with a strong emphasis on structured fieldwork and outcome-based assessment.

5) Technology Mastery in Geography Learning

Technology integration emerged as one of the distinguishing features identified in the curriculum documents. The Merdeka Curriculum provides opportunities for the incorporation of geospatial technologies, including geographic information systems

(GIS), digital mapping, remote sensing, and satellite imagery interpretation within Geography learning. In contrast, technology-related content in KSSM Form 4 is primarily associated with map-reading skills, topographic maps, and basic geospatial applications.

The analysis results indicate that the position of Geography within the Merdeka Curriculum is adaptive and oriented toward contemporary issues and geospatial technology mastery. In contrast, KSSM positions Geography as a subject with nationally consistent structure and a focus on strengthening physical Geography knowledge and measurable fieldwork skills.

Based on the overall comparison above, the position of Geography within the Merdeka Curriculum and KSSM reflects differences in education policy orientation in each country. The Merdeka Curriculum positions Geography as an adaptive subject that is open to variation in implementation at the school level. Flexibility is evident in the placement of Geography within the IPAS cluster, the non-rigid allocation of instructional time, and the space provided for schools to link learning with local issues and students' needs. This pattern indicates that Geography is positioned as a means of strengthening spatial literacy, environmental awareness, and regional analytical skills relevant to Indonesia's diverse geographical conditions.

Conversely, Malaysia's KSSM positions Geography as a subject with a clear, uniform, and nationally standardized structure. The detailed elaboration of content standards and learning standards places Geography as a subject oriented toward measurable learning outcomes and consistency across schools. The emphasis on physical Geography, structured fieldwork, and regional studies of Southeast Asia indicates that Geography in KSSM is directed toward building a strong foundation of factual knowledge and observational skills. This difference in positioning demonstrates that the Merdeka Curriculum tends to prioritize issue relevance and geospatial technology mastery, whereas KSSM emphasizes curriculum structural stability and systematic reinforcement of core Geography content.

6) Perspectives of Educational Stakeholders on Geography Curriculum Implementation

The findings derived from curriculum document analysis were further validated through interviews and focus group discussions involving Geography teachers, school principals, education officers, and curriculum experts from Indonesia and Malaysia. The qualitative data revealed several recurring themes regarding the implementation and positioning of Geography within both curriculum systems.

Informants from Indonesia generally perceived the Merdeka Curriculum as providing greater flexibility for teachers to contextualize Geography learning according to local environmental conditions and regional issues. Geography teachers highlighted that project-based

learning enabled students to engage more actively with topics such as disaster mitigation, environmental management, and community-based spatial problems. Several participants also noted that the integration of geospatial technology, including GIS applications and digital mapping tools, increased the relevance of Geography learning to contemporary societal needs.

However, Indonesian informants also identified several implementation challenges. Teachers reported varying levels of readiness in applying project-based learning and integrating digital geospatial technologies into classroom activities. School leaders emphasized that differences in technological infrastructure and teacher professional development opportunities contributed to variations in curriculum implementation across schools.

In Malaysia, Geography teachers and school principals emphasized the advantages of KSSM's detailed curriculum structure and clearly defined learning standards. Participants indicated that the curriculum provides a systematic framework for lesson planning, assessment, and fieldwork activities. Education officers further highlighted that the consistency of curriculum implementation across schools facilitates monitoring and quality assurance processes at the national level.

Despite these strengths, several Malaysian participants noted that the highly structured nature of KSSM may limit opportunities for teachers to adapt learning materials to local geographical issues and emerging environmental challenges. Some teachers expressed interest in greater flexibility to incorporate contemporary topics and advanced geospatial technologies into Geography instruction.

Across both countries, participants agreed that Geography plays an important role in developing spatial thinking, environmental awareness, and problem-solving skills. Informants also emphasized the growing importance of integrating digital geospatial technologies and sustainability-related issues into Geography education in response to contemporary global challenges.

B. SWOT Analysis of the Geography Curriculum at the Secondary School Level in Indonesia and Malaysia

SWOT analysis is used to identify the strengths, weaknesses, opportunities, and threats in the implementation of the Geography curriculum within the Merdeka Curriculum in Indonesia and the Kurikulum Standard Sekolah Menengah (KSSM) Form 4 in Malaysia. The analysis is described in the following sections.

1) SWOT Matrix of the Geography Curriculum

The SWOT analysis was developed through the synthesis of findings obtained from curriculum document analysis, interviews, focus group discussions, and supporting literature. Themes emerging from the qualitative data were first coded and categorized before

being organized into strengths, weaknesses, opportunities, and threats for each curriculum system.

Table 6. SWOT Matrix of the Geography Curriculum in Indonesia and Malaysia

Aspect	Indonesia (Merdeka Curriculum)	Malaysia (KSSM Form 4)
Strengths	High curriculum flexibility Project-based learning Integration of advanced geospatial technology Strong focus on environmental and disaster issues	Clear curriculum structure Detailed and measurable learning standards Systematic fieldwork National consistency
Weaknesses	Dependence on teacher readiness Variation in quality across schools Learning outcomes are less detailed by topic	Limited space for local adaptation Limited integration of advanced geospatial technology Dense content
Opportunities	Policy support for education digitalization Strengthening spatial literacy National demand for geospatial human resources	Integration of 21st-century learning technologies Strengthening Southeast Asian regional studies Educational research collaboration
Threats	Disparities in facilities across regions Teacher adaptation workload Disparities in student competencies	Dependence on a centralized curriculum Limited responsiveness to local issues Student learning burden

Table 6 shows that the Merdeka Curriculum has its main strengths in learning flexibility and the integration of geospatial technology that is relevant to environmental and disaster-related issues. These strengths support the development of spatial analysis skills and regional problem awareness. KSSM stands out in terms of structural consistency and clarity of learning standards, which facilitates the measurement of student learning outcomes. These differences in strengths indicate divergent education policy orientations between adaptability and national standardization.

2) Strategy Analysis Based on the TOWS Matrix

Based on the SWOT matrix, strategies for Geography curriculum development are formulated using the TOWS approach to identify potential areas for strengthening and improvement in each curriculum.

Table 7. TOWS Strategy Matrix for the Geography Curriculum.

Strategy	Indonesia (Merdeka Curriculum)	Malaysia (KSSM Form 4)
SO (Strength–Opportunity)	Optimization of geospatial projects based on local and national issues	Strengthening technology-based fieldwork
ST (Strength–Threat)	Utilizing curriculum flexibility to reduce regional disparities	Maintaining quality through standard consistency amid dense content
WO (Weakness–Opportunity)	Enhancing teacher capacity through geospatial technology training	Integration of GIS and advanced digital technologies in learning
WT (Weakness–Threat)	Development of minimum national Geography guidelines	Adjustment of content load and school-level adaptation space

Table 7 indicates that the development strategy of the Merdeka Curriculum is directed toward strengthening educator capacity and utilizing technology to reduce quality disparities among schools. Curriculum flexibility provides significant opportunities for innovation in region-based Geography learning. In KSSM, strategies are oriented toward leveraging the strength of curriculum structure to integrate learning technologies without compromising national standard consistency. This approach demonstrates that both curricula follow different yet complementary development pathways.

The results of the SWOT analysis indicate that the Merdeka Curriculum positions Geography as a subject oriented toward the adaptation of contemporary issues and mastery of spatial technologies. KSSM positions Geography as a subject with a stable structure and nationally measurable learning outcomes. This difference suggests that strengthening the Geography curriculum can be achieved through a combination of learning flexibility and clarity of achievement standards. These findings serve as the basis for formulating recommendations for the development of Geography curricula at the secondary school level.

C. Implications of Differences in Curriculum Structure on the Position and Function of Geography as a Subject

Differences in curriculum structure between Indonesia and Malaysia have direct implications for the position and function of Geography as a subject at the secondary school level. The Merdeka Curriculum places Geography within the IPAS cluster with a flexible character, whereas KSSM positions it as a mandatory subject with a clear and uniform structure. This difference indicates that the function of Geography in Indonesia is more oriented toward strengthening spatial literacy and cross-disciplinary regional issues, while in Malaysia Geography

functions as an independent discipline with nationally standardized learning outcomes. The differences in the formulation of learning outcomes indicate contrasting curriculum orientations. The Merdeka Curriculum adopts broader phase-based outcomes that provide greater flexibility in instructional planning, whereas KSSM employs more detailed content and learning standards that emphasize consistency and measurability of student achievement.

These implications are consistent with the findings of Sriyanto (2015) which show that in the Malaysian education system, social subjects are taught through separate, correlated, or systematically integrated approaches, in contrast to Indonesia, which places greater emphasis on integration at the primary and secondary education levels. This pattern continues into the secondary school level, including in the Geography subject. The separate and systematic structure in Malaysia strengthens the position of Geography as a core subject, while integration within a subject cluster in Indonesia provides space for cross-subject collaboration.

Differences in curriculum structure are also related to the characteristics of each country's national education system. Afida & Prihatin (2024) explain that differences in the levels and duration of primary and secondary education in Indonesia and Malaysia influence the design of advanced curricula. In this regard, KSSM is designed to ensure continuity of Geography learning up to the SPM level, whereas the Merdeka Curriculum provides schools with the flexibility to determine the depth and breadth of Geography content according to students' needs.

From the perspective of learning functions, the structure of the Merdeka Curriculum promotes Geography as a medium for issue-based learning focused on contemporary topics such as climate change, disasters, and the use of geospatial technology. This approach expands the function of Geography from mere knowledge transmission toward the development of regional analytical skills. Conversely, the dense and detailed structure of KSSM strengthens the function of Geography as a conceptual and applied subject through measurable fieldwork, as also noted by Anita & Susanti (2025) in their comparative study of Indonesian and Malaysian education.

The implications of curriculum structure are also evident in the development of character education through Geography. Marzam et al. (2022) show that character education policies in Malaysia are more systematically integrated into the curriculum compared to Indonesia. In KSSM, values such as citizenship, environmental awareness, and social responsibility are systematically embedded within Geography learning standards. In the Merdeka Curriculum, character values are integrated through Pancasila Student Profile projects, making the function of Geography more contextual and activity-based.

These differences are also related to long-term education policy directions. Lestari et al. (2024) note that Malaysia emphasizes the strengthening of technology-based and vocational education, while Indonesia is in a phase of curriculum transformation. In Geography learning, this is reflected in KSSM's emphasis on fieldwork skills and academic preparedness, whereas the Merdeka Curriculum positions Geography as a means of strengthening 21st-century competencies through the use of geospatial technology.

The implications of curriculum structure for the function of Geography are also related to the role of teachers in learning. Wangid et al. (2020) found that Indonesian teachers demonstrate relatively higher efficacy in engaging students, although the curriculum structure in Malaysia provides greater support for teachers through detailed guidelines. This finding suggests that the flexibility of the Merdeka Curriculum can strengthen the role of teachers as facilitators of Geography learning, while the structure of KSSM supports consistency of implementation across schools.

Differences in curriculum structure in Indonesia and Malaysia shape distinct positions and functions of Geography as a subject. The Merdeka Curriculum Positions Geography as a subject that is adaptive to issues and regional dynamics, whereas KSSM positions it as a core subject with a stable structure and measurable learning outcomes. These findings are consistent with Montori & Sumilat (2025) as well as Razaqna (2024) who emphasize that the development of 21st-century curricula requires a balance between learning flexibility and clarity of academic standards.

D. Dynamics of Strengths, Weaknesses, Opportunities, and Threats in the Implementation of the Geography Curriculum in Indonesia and Malaysia

The implementation of the Geography curriculum in Indonesia and Malaysia demonstrates dynamics influenced by differences in education policy design and national curriculum structures. The Merdeka Curriculum in Indonesia shows its main strength in learning flexibility and broad innovation space for Geography teachers in designing learning experiences. This flexibility is reflected in the freedom to choose learning approaches, develop region-based project learning, and integrate geospatial technology into learning activities. In contrast, the Kurikulum Standard Sekolah Menengah (KSSM) in Malaysia demonstrates strength in the consistency of curriculum structure and clarity of nationally applicable learning standards, resulting in uniform Geography learning implementation across schools.

The strength of flexibility in the Merdeka Curriculum identified in this study aligns with the findings of Montori & Sumilat (2025) who state that the direction of curriculum development in Indonesia emphasizes adaptability to the demands of the 21st century. In

Geography as a subject, this flexibility expands the role of teachers as learning designers and facilitators of spatial analysis activities. Learning is no longer limited to content delivery but is directed toward the processing of environmental, disaster, and regional data. However, as noted by Lestari et al. (2024), this curriculum transformation requires consistent policy support to prevent widening disparities in implementation across schools.

On the other hand, the strength of KSSM's structure and consistency supports the findings of Sriyanto (2015) who explain that the Malaysian education system tends to apply separated and systematically planned learning approaches for social subjects. The positioning of Geography as a mandatory subject with detailed content standards and learning standards strengthens its status as an established discipline. The results of this study extend these findings by demonstrating that the clarity of KSSM's structure assists teachers in systematically planning instruction and assessment. This consistency also contributes to uniformity in student learning outcomes across regions.

Nevertheless, the flexibility of the Merdeka Curriculum also generates weaknesses related to human resource readiness. The findings indicate that not all Geography teachers possess equal capacity in designing project-based learning and utilizing geospatial technology. This condition is consistent with the findings of Lestari et al. (2024) who state that curriculum change in Indonesia has not been fully accompanied by equitable distribution of training and educational facilities. As a result, the quality of Geography implementation is highly dependent on individual teacher capacity and school support.

Another weakness of the Merdeka Curriculum relates to the potential for quality disparities among schools and regions. Schools with adequate technological facilities are better able to develop data-driven, spatial-based Geography learning, whereas schools with limited resources tend to implement learning at a minimal level. This finding reinforces the results of Ramadhani et al. (2025) who emphasize that socio-economic conditions and regional policies significantly affect curriculum implementation effectiveness. In Geography learning, such disparities have the potential to widen differences in student competencies.

In KSSM, the main weakness lies in content density and limited space for instructional adaptation. While a detailed and standardized curriculum structure facilitates quality control, it may simultaneously restrict exploration of local regional issues. This finding aligns with the study by Razaqna (2024) which states that Malaysia's education system excels in balancing knowledge and skills but provides limited room for variation according to regional characteristics. In Geography learning, this condition may reduce the relevance of content to students' surrounding environmental realities.

From the perspective of opportunities, both countries have room to further develop the Geography curriculum through the strengthening of spatial literacy and the utilization of digital technology. Indonesia has significant opportunities to develop Geography as a strategic subject in disaster education and environmental management, in line with its archipelagic and disaster-prone characteristics. Malaysia has opportunities to expand the integration of advanced geospatial technology into KSSM, which already has a well-established structure. These opportunities are consistent with the findings of Mahanani et al. (2022) and Marzam et al. (2022) who emphasize the role of curriculum in strengthening 21st-century values and skills.

Threats in the implementation of the Geography curriculum in both countries are related to resource disparities, student learning burdens, and the continuously changing dynamics of education policy. In Indonesia, differences in facilities and teacher competencies across regions have the potential to widen gaps in the quality of Geography learning. In Malaysia, reliance on a centralized curriculum risks slowing responsiveness to emerging environmental and regional issues

IV. Conclusion

The position and function of Geography as a subject in secondary school curricula in Indonesia and Malaysia are influenced by differences in national curriculum structures and approaches. The Merdeka Curriculum places Geography flexibly with an orientation toward project-based learning, environmental and disaster-related issues, and the use of geospatial technology, thereby providing space for innovation for teachers and schools. Meanwhile, the Malaysian Secondary School Standard Curriculum (Kurikulum Standard Sekolah Menengah/KSSM) positions Geography as a mandatory subject with a consistent structure, detailed learning standards, and a strong emphasis on physical Geography and fieldwork. The SWOT analysis indicates that the flexibility of the Merdeka Curriculum offers opportunities to strengthen spatial literacy but still faces challenges related to resource readiness and equity of quality, whereas KSSM excels in implementation stability but has limitations in adapting to local spatial issues. These differences indicate that both curricula possess complementary strengths and weaknesses in the development of Geography education. Based on the research findings, the development of Geography curricula in Indonesia and Malaysia needs to be directed toward strengthening the balance between learning flexibility and clarity of achievement standards. Indonesia is advised to enhance systemic support through increased teacher training, provision of geospatial learning resources, and equitable distribution of infrastructure so that the flexibility of the Merdeka Curriculum can be implemented more evenly. Malaysia is encouraged to open a wider space for adaptive Geography learning so

that learning materials and activities are more aligned with local regional characteristics. Future studies are recommended to expand the scope of analysis to classroom implementation and students' learning outcomes to obtain a more comprehensive understanding of the effectiveness of Geography curricula in both countries.

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