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Augmenting the concept of Institutional Analysis to the inter-state border delimitation and demarcation practice in peninsular Malaysia

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Abstract. Enhancing border management policies appears to be a crucial aspect of the state border nations' proposal for interstate border governance. Understanding the action principle that guides an effective decision-making process among the institutions involved is necessary to improve a policy. The Institutional Analysis and Development Framework (IAD), proposed by Elinor Ostrom, an American political scientist specializing in institutional behaviour, is the most applicable framework for reforming guidelines. This article aims to raise awareness of the significance of incorporating the Institutional Analysis and Development Framework concept into the Joint Border Committee's (JBC) effective practice of interstate border determination in Peninsular Malaysia. Although incorporating social science knowledge into border management cycles remains limited, it appears to have increased over the past decade. The findings are analyzed to determine the suitability of integrating Institutional Analysis & Development (IAD) into Peninsular Malaysia's JBC practice to predict institutional behaviour and relationships related to the outcomes

1. Introduction

Interstate border determination seems to be the next priority for most border nations seeking sustainable governance. State border management is concerned about the increasing number of development projects near the border. Agriculture, fisheries, transportation, mineral exploration, coastal settlements, and forestry are only a few examples of how important it is to govern border regions effectively and sustainably [1][2][3]. In addition, the diverse land and maritime activities have led to unclear and overlapping institutional roles.

According to previous research, the state border institutions' concerns about determining the state border are centred on legal, technical, and institutional concerns [4][5][6]. This study investigated the institutional concerns surrounding effective interstate border demarcation practices [7][8]. The significance of interstate border demarcation is essential to the long-term viability of state border administration. The institutional component nonetheless reflects the human behaviour and relationships of the border community. The community represented on the joint border committee comprises the



federal government, state governments, and the armed forces, each of which performs different functions. Without a proper enhancement strategy, it is impossible to manage them.

Effective and sustainable management of the institution involves the practice of inter-state border demarcation. Numerous studies have focused on the primary agency responsible for collecting, processing, and disseminating spatial information to institutions. The essential question is how states regulate their border regions. After deliberating on a Memorandum from the Ministry of Land and Cooperative Development titled "Delimitation and Demarcation of Inter-State Boundaries in Peninsular Malaysia" on March 10, 1993, the Cabinet decided to appoint the lead agency. There were established and formed three (3) Joint Border Committees (JBCs): the National Joint Border Committee, the State Joint Border Committee, and the Joint Technical Committee. This committee aims to coordinate interstate borders' allocation, delimitation, and demarcation using funds provided by the respective states [9]. By this decision, on January 1, 1994, the Ministry of Land and Cooperative Development established the Trust Account Committee for the Delimitation and Demarcation in Section 9 of the Financial Procedure Act 195 [10] Inter-State Borders Peninsular Malaysia. The ministry established The Trust Account committee to receive donations from state governments and finance all expenditures associated with the coordinated state delimitation and demarcation work of the Department of Survey and Mapping Malaysia (DSMM).

The ministry issued the Standard Operating Procedure (SOP) for the Delimitation and Demarcation of Inter-State Borders in Peninsular Malaysia in 2014 due to the slow pace of state boundary demarcation. Peninsular Malaysia's determination of its interstate borders is based on general practice laws, treaties, government gazettes, correspondence letters, terms of reference (ToR), and memorandums of understanding (MoU). Several factors, including the following, have contributed to the delay in resolving the interstate border dispute in Peninsular Malaysia:-

- i. As stated in the treaty signed by British colonialists in the 19th century, determining the river's border is difficult due to the river's shifting course, which has not followed the treaty's terms due to accretion and avulsion. [5] [6][11] [12][13][14][15][16][17] [18] [19][20].
- ii. State Government does not view the demarcation and delimitation of state borders as the top priority for state development [2].
- iii. The change in political leadership had a significant impact on the determination of international borders. This government transition caused the meeting to be postponed to finalize the state border [21][22].
- iv. There are no explicit policies regarding managing interstate land borders and maritime borders or the necessity of coordination between agencies managing interstate borders in different sectors. [23][24][25].
- v. Between 1994 and 2006, procrastination and decision-making delays caused demarcation costs to overrun by 211.85 percent, and again in 2016 for unavoidable reasons [26][27].

Land boundaries, including natural boundaries such as rivers, must be finalized before determining maritime boundaries. Due to the shifting of their courses, natural borders, particularly rivers, are the leading cause of delays in interstate border demarcation [28][29]. Except for DSMM, Malaysia lacks the necessary expertise to complete the interstate border demarcation. Several JBC practises and implementations of interstate border demarcation in Peninsular Malaysia lack full decision-making capability and capacity. Even though the ministry has established SOPs at the current stage of developing the operational plan for governing state border demarcation, Peninsular Malaysia's JBC lacks proper policies and regulations regarding the topic under discussion. As a result, this study provides policy recommendations to the interstate border demarcation working committee. Therefore, Institutional Analysis and Development is the analysis that best meets the objective and serves as the focal point of this study's discussion (IAD). Incorporating IAD into the planning process for interstate border demarcation introduces a new paradigm for integrating social science perspectives into technical governance. This article will discuss the integration of interstate border demarcation practices along the Selangor-Perak and Selangor-Negeri Sembilan borders to maximize the IAD framework's effectiveness, which is a necessary first step in reforming Malaysia's interstate border demarcation policy.

2. Institutional Analysis and Development (IAD)

First and foremost, this paper will describe Institutional Analysis and Development, the analysis used to study institutional behaviour (IAD). Institutional Analysis and Development is a collection of concepts for evaluating the social structure, positions, and rules of institutions [30][31][32][33][34]. The best way to study and comprehend how institutions operate and change in response to specific projects is Elinor Ostrom's [35] analysis. As depicted in Figure 1, comprehension involves a thorough examination of the IAD concept's framework.

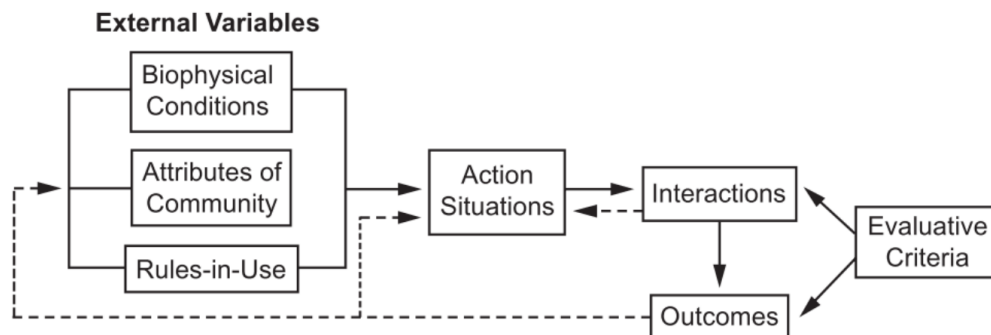


Figure 1. The framework of IAD [35][36] **Error! Reference source not found.**

IAD's framework is divided into two parts: external variables, biophysical conditions, community characteristics, and rules in use that represent the research's input. The action situation box in the center of the framework depicts most of the analysis. Figure 2 illustrates the internal structures of action scenarios. The action situation box contains seven (7) elements that require analysis: the actors, their positions, their actions, the information, their control, the possible outcomes, and the net costs and benefits [36][37][38]. The actors' positions take precedence, and the actions assigned to the appointed positions or committees are related to the constraints (control) and readily available information provided by the institutions. In addition to evaluating the component of net costs and benefits, all connections will ultimately lead to potential outcomes. The elements assigned to the action situation box are defined by prescription enforcement rules about permitted and prohibited actions. As depicted in Figure 3, Ostrom introduces seven (7) rules that affect each component of the action situation box.

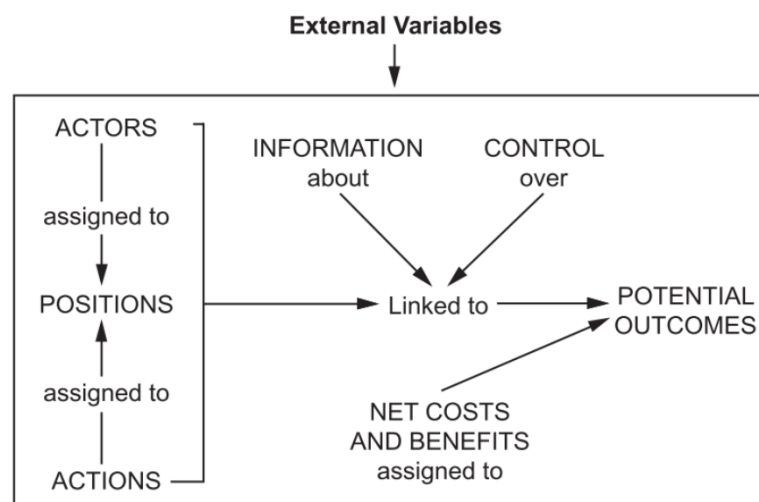
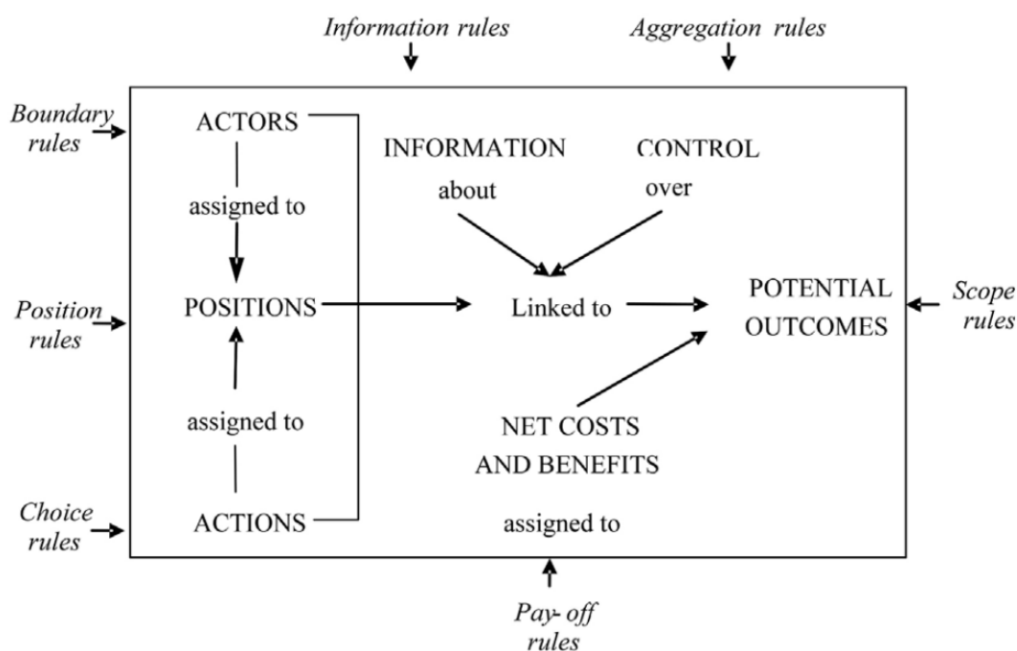


Figure 2. The internal design of the action situations box [36]

Table 1. Rules of IAD and explanation [36]

Rules	Explanation
Position Rules	Set of positions or functions occupied by various participants in an action situation.
Boundary Rules	Specify how actors are selected to enter or leave these positions, affecting the number of participants, attributes, and resources.
Choice Rules	Specify which actions assigned to a position are permitted, required, or prohibited. In this manner, these rules directly determine responsibilities, rights, and freedom.
Aggregation Rules	Determine how action situation decisions are made. Specify who will be involved in the decision and how each participant's decision may transform actions into intermediate or outcomes.
Scope Rules	Specify the potential outcomes that can be affected and, working backwards, the actions associated with particular outcomes.
Information Rules	Specify the information available to each position; these rules will affect communication channels among participants.
Pay-off Rules	Affect the benefits and costs assigned to specific combinations of actions and outcomes and the incentives and disincentives for action.

The seven rules will outline the possible outcomes of interactions between institutions (see Table 1). The outcome of the analysis is briefly focused on six aspects; (i) economic efficiency, (ii) fiscal equivalence, (iii) distributional equity, (iv) accountability, (v) sustainability, and (vi) conformance to values of local actors [36] Ultimately, the IAD framework is primarily concerned with understanding the relationship between institutions to propose outcomes [37][38]. On the other hand, it is essential to examine the framework's external variables to ensure the primary objective of the analysis. The study seeks to address the interstate border demarcation practice concerns raised by most state border nations. The following section discusses the elements required to ensure the efficacy of interstate border demarcation practices.

**Figure 3.** Rules defining the Action Situation Components [36]

3. Inter-state border delimitation and demarcation practice

Managing and ensuring the effectiveness and sustainability of interstate border demarcation is the primary concern of border nations. Governance of the interstate border begins with an efficient planning procedure and, most importantly, a strong connection between the involved institutions. Delimitation and demarcation of the interstate border is not a one-time measure proposed to govern state border activities sustainably. Several steps are necessary to achieve a continuous flow of practice, and the process may require multiple iterations to be sustainable.

By definition, borders serve as national security and sovereignty agents, providing a physical record of a nation's past and present interactions with its neighbours. Sir Henry McMahon changed the definitions of delimitation and demarcation after discovering that the dictionary treated them interchangeably. In this regard, he stated that delimitation involves establishing a boundary line through a treaty or other means and its written or verbal definition. It is demarcation to mark a boundary line on the ground and describe it with boundary pillars or other physical markers. The Joint Border Committee (JBC) was established to carry out this delimitation and demarcation task. They are established to achieve a specific, finite objective, typically the completion of boundary demarcation. They are responsible for reclaiming an existing boundary and enhancing its definition on the ground and in legal delimitation documents.

In addition, the participation of all institutions is crucial, especially during the practice enhancement phase. In addition, each institution should be involved in the decision-making process to promote mutual trust among committee members. It isn't easy to gather and inform the public about implementing border enhancements. Before developing a sustainable policy, the researcher must clarify the border information required by the agencies and the laws assigned to each institution. The well-known model of boundary development by Stephen B. Jones [39] with its four stages of boundary-making is ideal for achieving a sustainable approach. These phases consist of (i) Allocation, (ii) Delimitation, (iii) Demarcation, and (iv) Maintenance. Recent publications indicate that the stages of JBC practice are detailed and reflected in the process flow of the country.

In addition, planning and governance must be effective for a practice to be sustainable. Effectiveness is determined by the institution's efforts to attain practice objectives. As a result, it was determined that goals are essential for guiding the direction of the practice. As depicted in Figure 4, the effective criteria serve as the components tested in the IAD framework's external variable boxes.

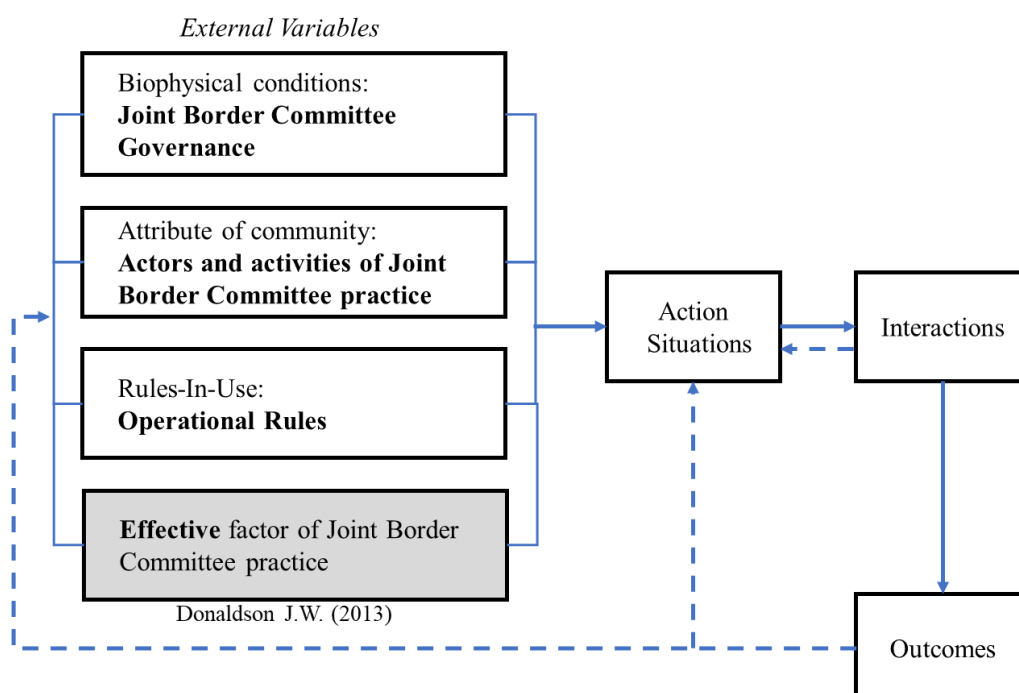


Figure 4. Augmentation of Effective element in JBC Practice into IAD Framework

Five components are necessary to achieve and practise interstate border demarcation effectively: (i) constitutive agreement, (ii) mandate, (iii) structure, (iv) technical specifications, and (v) dispute resolution mechanisms. These five components are placed in the external variable box of the framework and evaluated for the action situation to recommend a strategic institutional behaviour conducive to effective JBC practice. Figure 5 depicts effective JBC practice components incorporated into the IAD framework.

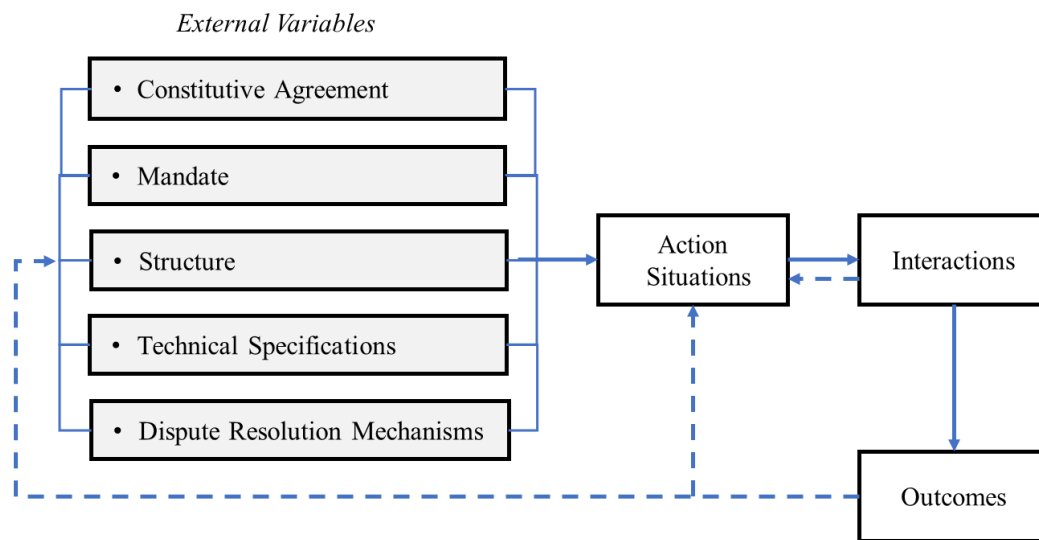


Figure 5. Integration of Effective Components of JBC Practice into IAD Framework

4. Case Study

This research was conducted at the Peninsular Malaysia interstate border in the JBC. As depicted in Figure 6, the Malaysian Department of Survey and Mapping (DSMM) has identified the delimitation process for nineteen (19) land boundary sectors and ten (10) maritime boundary sectors in peninsular Malaysia. The estimated total boundary distance between Peninsular Malaysia's interstates as of December 31, 2020, is 2,540.6 kilometres. As of December 31, 2020, 1,223.5 kilometres (47.8 percent) of the route had been completed and demarcated. Six border sectors have been finalised to date: Pahang-Terengganu, Perak-Pahang, Pahang-Negeri Sembilan, Pahang-Selangor, Kelantan-Terengganu, and Negeri Sembilan-Melaka. Two border sectors are awaiting the signing of the Melaka-Johor and Selangor-Negeri Sembilan Boundary Agreements.

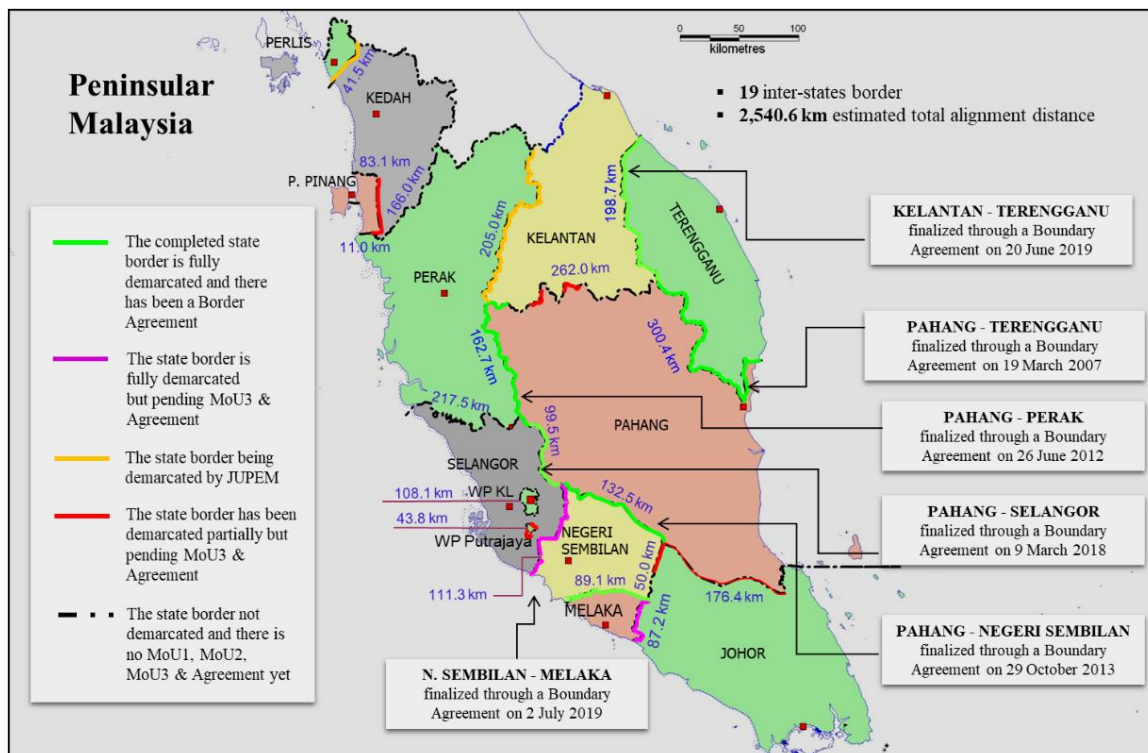


Figure 6: Inter-States Border Delimitation and Demarcation Project Status in Peninsular Malaysia (land boundary) (DSMM, 2021).

Nine (9) maritime border sectors have not been demarcated and the MoU is currently being finalized. As a result, the State Authorities should take proactive steps to ensure that the Memorandum of Understanding 1 (MoU 1) and Memorandum of Understanding 2 (MoU 2) are finalized and that boundary demarcation can be implemented. Additionally, they are critical not only from a technical standpoint but also for the process of determining and finalizing the boundaries at the State Authority level. Nonetheless, on October 15, 2019, only one (1) Memorandum of Understanding (MoU) of the Maritime Boundary Treaty between Melaka and Negeri Sembilan was signed. This was history, as it was the first sector of Peninsular Malaysia's maritime boundary to be established [40].

Sanglang River (Perlis-Kedah border), Muda River (Kedah-Penang border), Kerian River (Kedah-Perak border), Bernam River (Perak-Selangor border), and Endau River are natural boundaries between states that have not been demarcated (Pahang-Johor border). The Sepang River (Selangor-Negeri Sembilan border) and the Kesang River are two riverine borders that have been delineated but not yet approved by the state government due to unresolved issues (Melaka-Johor border). Both state governments reached an agreement in 2019 on a single river boundary at the Linggi River (Negeri Sembilan-Melaka border). In the same year, the two states also signed an agreement on their maritime boundary [40].

In 2014, the ministry issued a Standard Operating Procedure (SOP) for the Delimitation and Demarcation of Inter-State Borders in Peninsular Malaysia, declaring that the inter-state border in Peninsular Malaysia is determined in accordance with applicable laws, treaties, government gazettes, letters, terms of reference (ToR), and Memorandums of Understanding (MoU) between the states. The purpose of this committee was to coordinate the work of allocating, delimitating, and demarcating interstate boundaries, with funding shared 50:50 by the respective States.

Among other states, Selangor-Perak and Selangor-Negeri Sembilan borders have been chosen because the two states are separated by a natural border formed by the Bernam and Sepang rivers. Natural river boundaries, such as those of the Bernam and Sepang rivers, are notorious for delaying the demarcation of state boundaries. They have been discussed at previous technical coordination meetings on a number of occasions. It will take the initiative to improve the practice along the Selangor-Perak

and Selangor-Negeri Sembilan borders. As a result, the research examines the institutional behaviour of institutions involved in developing a sustainable Joint Border Committee practice.

Concerning the necessity of the IAD framework action-situation package, the first requirement is the identification of the institutions involved and the positions of the committee within the JBC. Figure 7 depicts the JBC committee of institutions based on documentation and interviews with the project's prominent leading institutions.

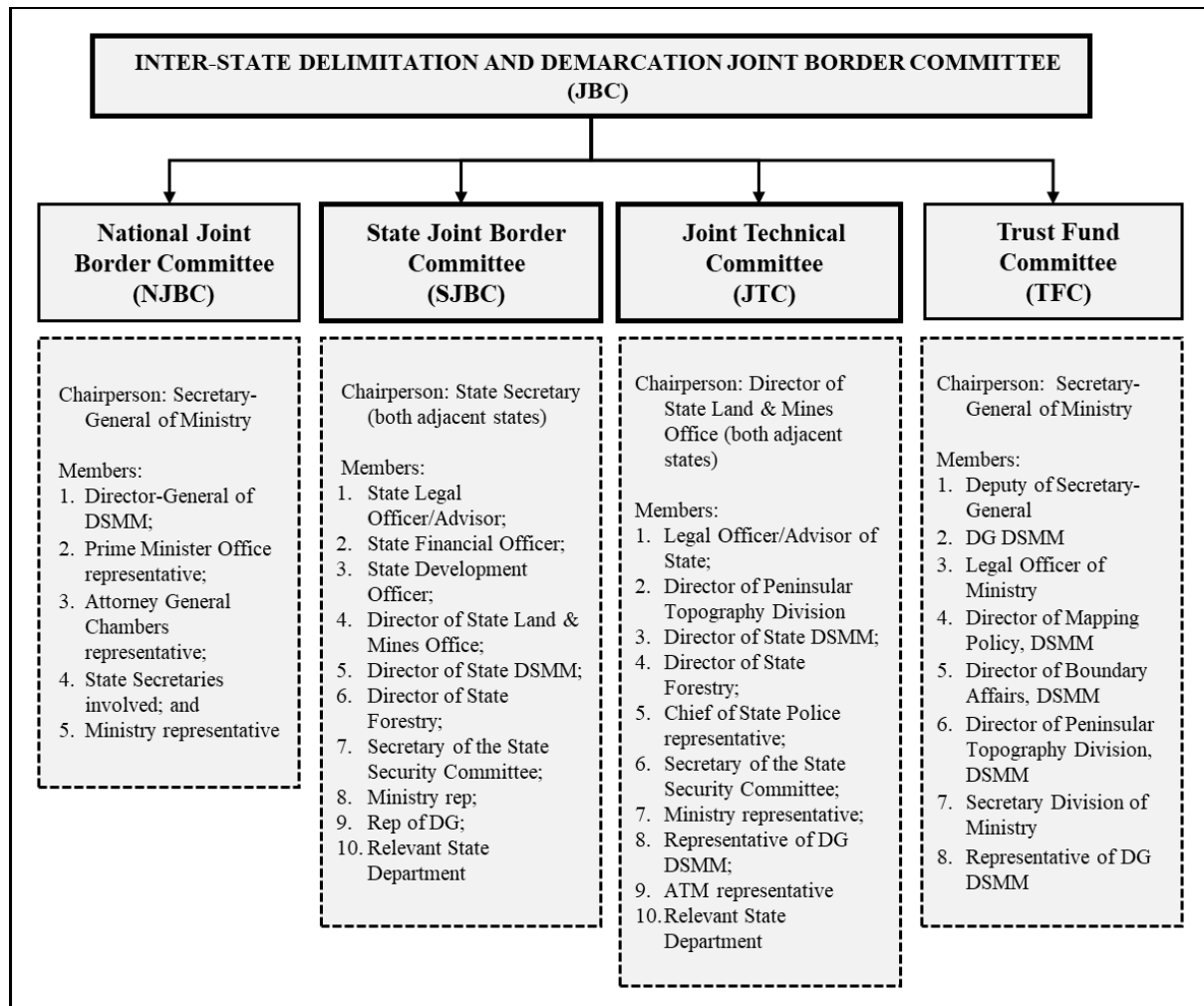


Figure 7. Working Committee of Joint Border Committee practice of inter-states border delimitation and demarcation in Peninsular Malaysia

Concerning the joint technical committee responsible for making decisions prior to fieldwork and developing a border working plan, the effectiveness study and institutional behaviour are essential for establishing a sustainable interstate border demarcation practice. According to Figure 7, the Joint Technical Committee (JTC) is primarily responsible for researching the efficacy of JBC practises in Peninsular Malaysia. To complete the IAD framework for effective JBC practises in Peninsular Malaysia, additional research on the other IAD rules influencing effective interstate border delimitation and demarcation should be conducted.

5. Result and Discussion

Integrating the IAD framework into the effective practice of interstate border delimitation and demarcation seems to be the next primary objective for the border nation in developing a practical policy study for state border governance. Because practice in interstate border delimitation and demarcation is never a straightforward process, especially when attempting to achieve a long-term solution for border management. However, achieving a dynamic and sustainable result typically requires multiple steps. In addition, each committee member on the JBC team has excellent responsibilities and roles in developing an appropriate enhancement plan for each institution engaged in border demarcation activities in Peninsular Malaysia.

Adapting the concept of border-making studies to state border governance is an initiative to govern border areas effectively due to government institutions' overlapping roles and responsibilities; governing border areas without a proper plan results in a dispute over claiming area-based activities due to institutional redundancies. Therefore, the proposed solution to the issues is to improve JBC practice.

The five most effective elements of interstate border demarcation practice, according to research, are the constitutive agreement, the mandate, the structure, the technical specifications, and the dispute resolution mechanisms. A century ago, academics began investigating all facets of JBC practice. It is recommended that additional research be conducted to integrate JBC practice and the IAD concept to develop a policy on border demarcation improvement for Peninsular Malaysia's interstate border governance committee.

The emergence of the JBC concept is the optimal condition for influencing the organizational behaviour of state-border institutions in favour of the effectiveness of JBC practises. Additionally, IAD refers to evaluating the institutional behaviour of a particular practice. The case study in Selangor-Perak and Selangor-Negeri Sembilan revealed the improvement of Joint Technical committees in response to one of seven framework position rules applied by the IAD.

The study of the efficacy of interstate border demarcation practices is a priority for border nations, as is the incorporation of IAD analysis, which offers a novel perspective on enhancing state border policies, especially among state border institutions.

6. Conclusion

The interstate JBC must be efficient, respected, and capable of ensuring that the entitled and non-entitled parties conform to the reality of their validity and legitimacy. To this end, the government tasked the JBC with regulating border demarcation, which is the process of defining state border areas. Since 1993, only 47.8 percent of the interstate boundary has been delineated. The results indicate that the rules in use conform to the JBC. Still, this situation presents an opportunity to restructure the SOPs due to their opaque disclosure of factual issues and implementation delays.

Position rules, boundary rules, choice rules, aggregation rules, information rules, scope rules, and pay-off rules have failed to direct the JBC to interact in the decision-making process. During the rule's implementation, JBC applied them consistently. Consequently, enhancements to each component of the rules-in-use are required.

To prevent further delays in delineating inter-state borders, parties must make decisions with the necessary expertise. The JBC's standard operating procedures must be reorganized to accelerate the committee's decision-making. Institutional behaviour analysis and IAD must be utilized to modify effective factors to achieve a variety of interactions. The JBC was established regardless of agency structures, authority and positioning, obligations and rights, or accountability. According to the analysis results, a configuration of seven types of rules can be used to improve JBC, as seven types of rules revealed significant flaws in its formation.

This reorganization will ensure that each discussion can effectively carry out its responsibilities while accelerating the process of inter-state border demarcation in peninsular Malaysia in accordance with the Sustainable Development Goals (SDGs) 16th goal, Peace, Justice, and Strong Institutions, which promotes peaceful and inclusive societies for sustainable development, ensures equal access to justice for all and builds strong institutions.

References

- [1] Bernama 2017 Keputusan telaga minyak Bertam milik Terengganu atau Pahang diketahui Januari <https://www.astroawani.com/berita-malaysia/keputusan-telaga-minyak-bertam-milik-terengganu-atau-pahang-diketahui-januari-162775>
- [2] The Star 2018 State Governments Urged to Finalize Their Borders to Avoid Overlapping Claims <https://www.thestar.com.my/news/nation/2018/12/03/state-governments-urged-to-finalise-their-borders-to-avoid-overlapping-claims/>
- [3] Berita Harian Online 2019 Isu royalti minyak, kerajaan bayar selepas ada sempadan negeri <https://www.bharian.com.my/berita/nasional/2019/10/623098/isu-royalti-minyak-kerajaan-bayar-selepas-ada-sempadan-negeri>
- [4] Srebro H, Shoshany M 2006 Towards a Comprehensive International Boundary Making Model In *Shaping the Change: XXIII FIG Congress* pp 1–20
- [5] Jerome Bouyjou O 2011 Applied Issues in International Land Boundary Delimitation & Demarcation practices
- [6] Kokha A Y H 2019 Boundary Demarcation for A New State in International Law *The Journal of The University of Duhok* 22(1) 469–493 <https://doi.org/10.26682/hjuod.2019.22.1.27>
- [7] Donaldson J W, Williams A J 2008 Delimitation and demarcation: Analyzing the legacy of Stephen B. Jones's boundary-making *Geopolitics*, 13(4) 676–700 <https://doi.org/10.1080/14650040802275503>
- [8] Donaldson J W 2013 Chapter 3: Boundary Commissions: Creating Effective. Delimitation and Demarcation of Boundaries in Africa General Issues and Case Studies African Union Border Programme (AUBP) 72-89
- [9] Cabinet Council 1993 Delimitation and Demarcation of Inter-State Boundaries in Peninsular Malaysia Ministry of Land and Cooperative Development
- [10] Cabinet Council 1994 Trust Account Committee establishment Ministry of Land and Cooperative Development
- [11] Prescott V & Triggs G D 2008 *International frontiers and boundaries: Law, politics and geography* pp. 1–504 Brill <https://doi.org/10.1163/ej.9789004167858.i-504>
- [12] Thomas K A 2017 The river-border complex: a border-integrated approach to transboundary river governance illustrated by the Ganges River and Indo-Bangladeshi border *Water International* 42(1) 34–53 <https://doi.org/10.1080/02508060.2016.1247236>
- [13] Pratt M 2010 The Scholar-Practitioner Interface in Boundary Studies. *Eurasia Border Review* 1(1) 29–36.
- [14] Srebro H 2018 Historical cartographic materials as a source for international and cadastral boundary management in rivers *Proceedings of the ICA* 1 1–18 <https://doi.org/10.5194/ica-proc-1-104-2018>
- [15] Belgrave V, Cantile A, Grant D, Robertson W A, & Srebro H 2020 *International Boundaries on Unstable Ground* pp. 1–99
- [16] Shah S 2009 River boundary delimitation and the resolution of the Sir Creek dispute between Pakistan and India *Vt. L. Rev.* 34 357
- [17] Donaldson J W 2009 Where rivers and boundaries meet: Building the international river boundaries database *Water Policy* 11(5) 629–644 <https://doi.org/10.2166/wp.2009.065>
- [18] Araen Asanarimam S 2018 Boundary Surveying and Boundary Management Issues in Nigeria Office of the Surveyor-General of the Federation Mbasule Digital Press New Era Junction
- [19] Gleditsch N P, Furlong K, Hegre H, Lacina B, & Owen T 2006 Conflicts over shared rivers: Resource scarcity or fuzzy boundaries? *Political Geography* 25(4) 361–382 <https://doi.org/10.1016/j.polgeo.2006.02.004>
- [20] Department of Survey and Mapping Malaysia Annual Report 2020 <https://www.facebook.com/photo/?fbid=293570786149410&set=a.229118809261275>
- [21] Berita Harian Online 2020 MB baharu penyelesaian kemelut politik di Perak <https://www.bharian.com.my/berita/nasional/2020/12/761668/mb-baharu-penyelesaian-kemelut-politik-di-perak>
- [22] New Straits Times 2020 Perak Political Crisis Reaches a Stalemate

- <https://www.nst.com.my/news/politics/2020/12/647972/perak-political-crisis-reaches-stalemate>
- [23] Astro Awani 2020 Isu sempadan Kuala Lumpur - Selangor: Ini reaksi Amirudin Shari <https://www.astroawani.com/berita-malaysia/isu-sempadan-kuala-lumpur-selangor-ini-reaksi-amirudin-shari-229515>
- [24] Astro Awani 2020 Isu persempadanan N. Sembilan dengan Melaka, Selangor, Pahang selesai – MB <https://www.astroawani.com/berita-malaysia/isu-persempadanan-n-sembilan-dengan-melaka-selangor-pahang-selesai-mb-254986>
- [25] Astro Awani 2020 Isu sempadan Wilayah Persekutuan-Selangor ambil masa lama - Timbalan Menteri <https://www.astroawani.com/berita-malaysia/isu-sempadan-wilayah-persekutuanselangor-ambil-masa-lama-timbalan-menteri-256464>
- [26] Cabinet Council 2006 Trust Account 1st Review Meeting Ministry of Natural Resources and Environment
- [27] Cabinet Council 2016 Trust Account 2nd Review Meeting Ministry of Natural Resources and Environment
- [28] Donaldson J W 2011 Paradox of the moving boundary: Legal heredity of river accretion and avulsion *Water Alternatives*, 4(2) 155–170.
- [29] Srebro H 2018 Historical cartographic materials as a source for international and cadastral boundary management in rivers *Proceedings of the ICA I* 1–18 <https://doi.org/10.5194/ica-proc-1-104-2018>
- [30] Sinabutar P 2014 Analysis of Rules in Use the Formation of Committee Boundary (PTB) State Forest Area in Indonesia *Agriculture, Forestry and Fisheries* 3(4) 299 <https://doi.org/10.11648/j.aff.20140304.22>
- [31] Suwarno E, Kartodihardjo H, M Kolopaking, Soedomo S 2014 Institutional Obstacles on the Development of Forest Management Unit: The Case of Indonesian Tasik Besar Serkap *American Journal of Environmental Protection*, 2(2) 41–50 <https://doi.org/10.12691/env-2-2-3>
- [32] Theesfeld I, Dufhues T, Buchenrieder G 2017 The effects of rules on local political decision-making processes: How can rules facilitate participation? *Policy Sciences* 50(4) 675–696 <https://doi.org/10.1007/s11077-017-9284-2>
- [33] Heikkila T, Andersson K 2018 Policy design and the added-value of the institutional analysis development framework *Policy and Politics*, 46(2) 309–324 <https://doi.org/10.1332/030557318X15230060131727>
- [34] Yatim M H M 2019 Integrated Framework of Institutional Analysis Towards and Development on Effective Marine Spatial Planning in Malaysia Ph.D. Thesis Universiti Teknologi Malaysia
- [35] Ostrom E 2010 The Institutional Analysis and Development Framework and the Commons. *Cornell Law Review* 95(4) 807–815 <http://scholarship.law.cornell.edu/cgi/viewcontent.cgi?article=3170&context=clr>
- [36] Ostrom E 2011 Background on the Institutional Analysis and Development Framework. *Policy Studies Journal* 39(1) 7–27 doi:10.1111/j.1541-0072.2010.00394.x
- [37] McGinnis M D 2011 An Introduction to IAD and the Language of the Ostrom Workshop: A Simple Guide to a Complex Framework *Policy Studies Journal* 39(1) 169–183 <https://doi.org/10.1111/j.1541-0072.2010.00401.x>
- [38] Cole D H 2017 Laws, norms, and the Institutional Analysis and Development framework *Journal of Institutional Economics* 1–19 <https://doi.org/10.1017/S1744137417000030>
- [39] Jones S B 1945 Boundary-making: A guidebook for statesmen, treaty editors and boundary commissioners Washington: Carnegie Endowment for International Peace
- [40] Negeri Sembilan 2019 Negeri Sembilan, Melaka Meterai Perjanjian Sempadan Maritim <https://www.negerisembilan.org/15-okt-2019-3>