

Waterways of Integration: Historical and Contemporary Roles of Rivers in Southeast Asian Civilisation and Regionalism

Mohd Firdaus Abdullah * - Centre for Research in History, Politics & International Affairs, Faculty of Social Sciences and Humanities, Universiti Kebangsaan Malaysia, Malaysia.

Ismail Ali - Professor, History Programme, Faculty of Social Sciences and Humanities, Universiti Malaysia Sabah, Malaysia.

Shaiful Shahidan - Centre for Research in History, Politics & International Affairs, Faculty of Social Sciences and Humanities, Universiti Kebangsaan Malaysia, Malaysia.

Azian Tahir - Associate Professor, Fine Art Department, Faculty of Art and Design, Universiti Teknologi MARA, Perak Branch, Seri Iskandar Campus, Seri Iskandar, Perak, Malaysia.

Norazilawati Abd Wahab - Ph.D., Faculty of General Studies and Advanced Education, Universiti Sultan Zainal Abidin, Terengganu, Malaysia.

Received: 01/02/2025

Accepted: 08/06/2025

Abstract

The main rivers in Southeast Asia not only shaped civilization but also play a significant element that transcends geopolitical boundaries in that area. This article aims to examine the role of rivers in Southeast Asia in connecting communities, strengthening trade, and spreading religious beliefs such as Hindu-Buddhism and Islam, making it the core of principle for regional integration and collective identity in Asean. By using the *longue durée* theory, this article analyses the rivers' roles as both physical and symbolic mediums. Findings reveal that rivers were not only used as the main routes for trading but also as channels to exchange cultures and symbols of shared identity, seen in traditions like floating markets, maritime arts, and water house communities. However, the neglect of joint management cooperation due to modern nation-state-centered approaches has affected the rivers' potential as catalysts for regional integration. Therefore, this article emphasizes the importance of establishing a multilateral framework for river management within ASEAN, leveraging platforms such as ASEAN as mechanisms for water diplomacy to ensure ecological sustainability and equitable resource distribution.

Keywords: Southeast Asian Rivers, Regional Integration, Water Diplomacy, Civilisational Development, *Longue Durée* Approach.

* E-mail: mfa@ukm.edu.my

1. Introduction

It is historically proven that rivers have often played a central role as life veins, connecting regions, and forming civilisation. Rivers such as Mekong, Irrawaddy, Chao Phraya, and Mahakam in Southeast Asia have long been a catalyst for cultural exchange, trade, and regional identity (Gupta,2005:65). Although often considered as a natural boundary between regions, the river actually functions as a link that crosses political and geographical boundaries (Nasir,2005). In this context, we argue that rivers, like the sea, are an important element that unites, fosters the relationship and cooperation that form the foundation of civilisation and regional development in Southeast Asia (Ali and Abdullah,2024:67-81). Rivers undeniably provide a source of water for domestic, agricultural, and industrial use, making it an invaluable asset to the community along its livelihoods (Schönach,2017:233-257). Additionally, rivers are also used as the main route for trading and communication (Idris and Ramli,2018:25-46). As examples, six countries which are China, Myanmar, Laos, Thailand, Cambodia, and Vietnam are connected by the Mekong River. This creates a network of trade and cultural interaction that transcends geopolitical boundaries (Stark,1998:175-203). Similarly, Irrawaddy River in Myanmar and Chao Phraya River in Thailand have been the backbone of their respective economy and culture, forming the connection between the rural area and trade center on the coast (Dick et al, 2003:155-185). In Malaysia, Perak River has been the main route for tin ore trade, while the Pahang River supports rice farming and social interaction in rural areas (Nasir,2005).

Nevertheless, in the context of modern politics, rivers are often a source of conflict and tension, especially when it comes to the division of water and border management (Mokhtari Hashi and Ghaderi Hajat,2008:36-74; Mianabadi and Amini,2019:54-86). For example, the Mekong River has witnessed competition between countries that share their basins with issues such as dam construction and exploitation of water resources becoming the point of contention (Hirsch,2010:312-323). The same issue arises in Malaysia where the issue of water management of Muda River located between Kedah, Perlis, and Penang reflects a significant gap in establishing a more equitable resource governance framework (Abdullah,2024:197-224; Abdullah et al., 2024:151-170). In all cases, rivers that have been known as to unite are often the cause of division, reflecting on how modern political boundaries and economic objectives can overcome the natural functions of rivers as unifying

elements (Nosrati et al.,2020:23-59). As a cultural element, rivers in Southeast Asia often become a symbol of identity and tradition. For example, the floating market in Chao Phraya River and Mekong River are not only used as trade centres but also a symbol of lifestyle among communities along the river (Utomo and Mateo-Babiano,2015:2316-2332). In Brunei, the Brunei Rivers served as a fundamental development of Kampung Ayer which remains as a symbol of the country's maritime culture to the present (Hassan and Yong,2019:47-63). Meanwhile, rivers such as Kapuas and Barito in Indonesia have long been important routes for trade between islands, supporting local economies and fostering close social ties (Hudson,1967:8-42). However, in the era of globalisation and modern development, many river-based traditions are increasingly marginalised due to rapid urban expansion, changing lifestyle patterns, and the decline in river-dependent economies. These changes weaken the socio-economic relevance of river spaces, thereby raising important questions about how such cultural practices can be preserved amid ongoing development pressures (Hirsch,2010:312–323).

In the context of ecology, rivers play a significant role in maintaining the balance in the ecosystem. Rivers with healthy systems not only provide habitats for various species of life but also support the ecological stability of the surrounding area. However, many rivers in Southeast Asia are now facing pressure due to human activities, including pollution, deforestation, and dam construction. These issues not only threaten ecological balance but also affect communities that depend on the rivers for their livelihoods. For example, the Klang River in Malaysia shows how neglect of proper river management can have a bad impact for both urban and rural communities (Nadzri et al, 2023:1700-1706). This article is written to investigate how rivers in Southeast Asia function as unifying elements in historical context, culture, and ecology. In this context, we also examine how the role of rivers as a unifying element has changed due to modern politics, economy, and modern ecology. This article contributes to existing scholarship by examining the role of rivers in uniting communities and shaping regional identities through an interdisciplinary lens. It integrates historical, ecological, and geopolitical dimensions to offer a fresh perspective on how rivers function as agents of sustainable and inclusive regional connectivity. Employing a *longue durée* approach, the study traces the evolving significance of rivers across three temporal layers: as historical agents of civilisation, as contemporary

ecological and cultural lifelines, and as future-oriented instruments of regional diplomacy and integration.

2. Research Methodology

This study adopts a qualitative approach to examine the role of rivers in Southeast Asia as unifying elements in civilisational development and regional integration. The research draws on the *longue durée* perspective from the Annales School to analyse the enduring patterns of interaction between communities and rivers over time. This approach allows for a deeper investigation of rivers not merely as physical resources, but also as symbolic and socio-cultural conduits shaping Southeast Asian identity. Data were primarily collected through comprehensive library research, which included materials from national archives, scholarly reports, and academic databases such as JSTOR, Springer, Scopus, Web of Science, and ProQuest. A thematic analysis was applied to identify recurring patterns and meanings, particularly in relation to rivers' roles in trade, religious diffusion, and the construction of regional identity. To ensure the credibility of findings, triangulation was employed by comparing insights from archival records, existing literature, and field observations. Field visits were conducted to Kampong Ayer in Brunei and Khlong Hae Floating Market in Thailand. These sites were selected due to their enduring cultural ties to rivers and their representation of contemporary riverine life in Southeast Asia. Although no formal interviews or ethnographic methods were used, the visits served as observational studies. They allowed the researcher to directly observe the spatial organisation, river utilisation, and symbolic elements embedded in everyday practices thereby providing valuable context that complemented the documentary sources. The scope of the study includes selected major rivers across Southeast Asia, as illustrated in Figure (1) (see attached map). The rivers were chosen based on their historical significance and contemporary relevance to inter-regional connectivity, cultural exchange, and regional identity construction.

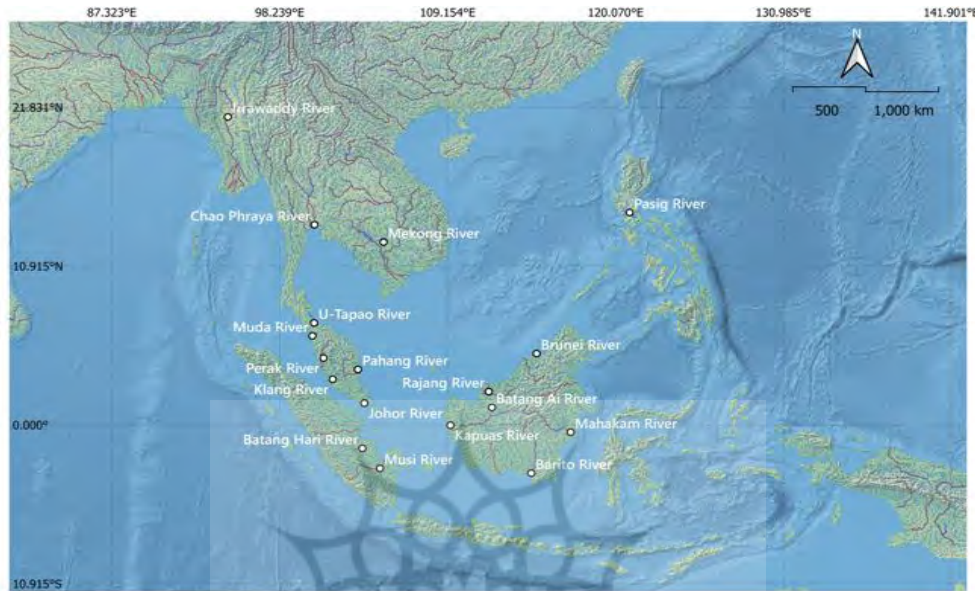


Figure (1): Selected River Systems in Southeast Asia Relevant to Civilisational Development and Regional Integration

3. Literature Study

3-1. Historical Trade and Civilisation

Past studies have emphasised the strategic role of rivers in shaping early civilisations and economic systems in Southeast Asia. For example, Andaya (2018) argued that rivers supported not only local economies but also broader international relations through maritime trade and cultural diffusion. Similarly, Bellwood (2007) and Ali & Abdullah (2004) demonstrated that Austronesian migration patterns were deeply linked to riverine mobility, highlighting how waterways facilitated population spread and technological transfer. Nasir (2005), focusing on pre-colonial Malaysia, showed how major rivers such as the Perak and Pahang Rivers were central in the spice and gold trade, making them key nodes in global economic exchanges during the early modern period.

3-2. Riverine Culture and Identity

Rivers in Southeast Asia are not merely economic channels but serve as cultural and social spaces. Ali & Abdullah (2024) explored how communities such as Kampung Ayer in Brunei and the Chao Phraya floating markets in Thailand represent enduring traditions rooted in riverine living. These

practices reflect adaptive strategies to environmental conditions while simultaneously illustrating cultural fusion across political boundaries. Such cultural heritage demonstrates how rivers have become symbolic spaces of community identity and continuity amidst modern transformations.

3-3.Ecological and Political Challenges

Contemporary literature has also focused on the ecological and geopolitical dimensions of river governance. Linuma (2001) examined the Mekong River as a case study of both cooperation and conflict among countries such as Thailand, Vietnam, Laos, and Cambodia, underscoring the river's dual role in diplomacy and dispute. Hirsch, Wester & Molle (2006) added depth to this conversation by highlighting the necessity of collective, basin-wide management approaches to ensure ecological sustainability and protect vulnerable downstream communities. These studies collectively stress the importance of balancing national interests with regional ecological justice.

3-4.Identified Gap and Study Contribution

Unlike prior studies, this research links river history and culture with current hydropolitical tensions and proposes new institutional mechanisms, such as a subnational river commission, to address future water governance challenges within ASEAN. Despite the richness of these perspectives, there remains a gap in understanding rivers as unifying frameworks for contemporary regional integration, particularly in the context of ASEAN cooperation. While many existing works offer rich historical or ecological insights, few have explicitly connected these dimensions to contemporary geopolitical and institutional frameworks, particularly in the context of ASEAN regional integration. This study addresses that gap by conceptualising rivers not only as physical entities but also as symbolic and diplomatic bridges for integration in Southeast Asia.

4. Findings and Discussion

4-1.Rivers as the Pulse of Civilisation: Historical and Archaeological Perspective

The main rivers in Southeast Asia have long been the pulse of the formation of early civilization, playing a crucial role in the socioeconomic, cultural, and political development of this region. The Mekong River, Irrawaddy River, Chao Phraya River, and many others not only form a physical landscape but also served as the foundation for trades activities, cultural exchange, and the spread of religions across borders (Gupta,2005:65). We believe that these

rivers are significant unifying elements, connecting diverse communities along the river basins where human activity is centred and flourished. The harmony between rivers and early civilizations in the region can be seen through archaeological discoveries, the development of empires such as Funan, Srivijaya, and Angkor, as well as the spread of Hindu-Buddhism and Islam (Higham,1989: Houben,2003:149-170). Archaeological discoveries in the river basins of Southeast Asia provide a clear picture into how rivers have long served as centers of human activity. For example, discoveries at Oc Eo, an archaeological site in the Mekong Delta, show evidence of international trade involving items such as beads from India and coins from Rome. This finding confirms that the Funan evolved along the Mekong River around the 1st to 6th centuries AD. Funan was one of the earliest empires that utilised the river to develop a global trading network. With the strategic location, the Mekong River becomes central of Western and Eastern worlds, by transporting goods, ideas, and technology that suppress the cultures and geography (Linh,2023). We argue that without a river such as Mekong, Funan would not have achieved its status as an important trading centre in that era. Moreover, rivers play a significant role in the development of the Srivijaya empire, located in Sumatra in the 7th to 13th centuries. With the control over the Strait of Malacca and a network between the rivers in Sumatra such as Batang Hari and Musi Rivers, Srivijaya became a powerful maritime empire, exploit the river to transport goods from the rural areas to the major ports. The river transportation system not only strengthened its economic position but also supported the spread of Buddhism throughout Southeast Asia (Manguin, 2021:87-100). The Irrawaddy River, which became the heart of the Pagan civilization in Myanmar has also shown the relationship between the river and political growth. The Pagan Empire which flourished in the 11th to 13th centuries, had used rivers to connect the rural areas and main cities, making Pagan an empire that centred on the river and its agricultural system (Aung-Thwin and Aung-Thwin,2013). We observe that the close bonds between the Pagan Empire and the Irrawaddy River highlight the role of the river as a booster of political and religious development in Southeast Asia. The Chao Phraya River in Thailand also played a similar role in the development of Ayutthaya, an empire that flourished in the 14th to 18th centuries. With the strategic control over the river, Ayutthaya became an international trade centre, attracting traders from China, Japan, India, and Europe. This river not only provides access to major ports but also supports

agriculture that become the fundamental of the empire's economy. In addition, the Chao Phraya River became the medium to spread culture and religion, especially during the golden age of Buddhism in Ayutthaya (Baker and Phongpaichit, 2017). We argue that without the support of this river, Ayutthaya would have not reached its spot as a prime trade centre of commerce and culture. However, the role of the river as a unifying element is not limited to economic and religious activities alone. We discover that rivers are also the foundation for the cultural identity and heritage of Southeast Asian people. For example, the tradition of perahu panjang in Batang Ai River, Sarawak, reflects the close bonds between the Iban ethnic and the river that becomes the pulse of their lives (Kiyai and Tugang, 2023:185-208; Porok, 2022:74-97). We also argue that rivers discussed function as bridges between different communities, connecting rural areas with the coast and creating a network that crosses geographical and political boundaries. This relationship is not only relevant in the past but also connected with the modern context, where rivers continue to be an important element in regional development. However, ecological challenges such as pollution, dam construction, and exploitation of natural resources threaten the traditional role of rivers as a unifying element. In facing this challenge, we believe that the understanding of the history of the mentioned rivers is able to provide guidance for sustainable management and preservation of their cultural heritage.



Figure (2): Kampung Ayer, Brunei: A Riverine Cultural Settlement that Reflects the Enduring Relationship between Community and River in Southeast Asia

4-2.Economic Unification: River as a Regional Trade Network

The river has long been a pulse of the regional economy, playing an important role in connecting rural areas communities with the main trade ports on the coast. As a whole, rivers in Southeast Asia are not only used as the main routes, but also the backbone of the trade network that supports the development of civilization and interaction between communities. In West Kalimantan, Indonesia, the Kapuas River is the longest river in the country that serves as the main route for the trade of spices, textiles, and metals. Traders from the rural areas use the river to send natural resources to coastal ports, where it will be exported to China, India, and the Arabic world (Somers Heidhues,1998:273-294). In Malaysia, rivers such as the Rajang River in Sarawak is the main bridge for the transportation of agricultural products such as balak and other merchandise. Rajang River is indeed supporting the economy of the Iban, Melanau, and Dayak communities in the rural areas, where it eventually becomes the main routes for trade and communication with the main cities such as Sibul (Mahdini,2018:135-147). This shows that rivers in Malaysia, just like in Indonesia, are the pulse to regional trade that unites various communities. This connection remains significant until this day as it is still the main source of water and transportation in many suburban communities.

In Brunei, the river is not mainly focused as an economic route but also a symbol of cultural identity. For example, the Brunei River became the centre for the formation of Kampung Ayer, a water village known as ‘Venice of the East’ (Ibrahim & Ghani,2018:1-19). This village became the main trading centre during the glory of the Brunei Sultanate, where it connected the rural areas community with the outside world. Although Brunei is a small country, its river functions as an economic channel that connects the citizens with international trade ports. This relationship shows how the river plays a greater role than just a physical route; it is the cultural and economic bridges that unites the society (Jones,1997:457-475). In fact, until today, Kampung Ayer continues to function as a cultural sign that reminds us of the importance of rivers in the perspective of history and identity of Brunei. In the Philippines, rivers such as the Pasig River in Manila have been the centre of trade since the Spanish colonial era. This river connects the main port in Manila with the rural area Luzon, making it the main channel for the export of agricultural products such as sugar, copra, and tobacco. This relationship not only supports the Philippine economy but also shows how the river helps to unite

ethnic communities in the same trade network. For example, the Pasig River became an important symbol in Manila's economic development, affecting social and cultural interaction between the rural areas communities and the cities. Moreover, this river also became the background for many historical and cultural narratives that reflect the transformation of Manila as a modern metropolis (Chias and Abad,2012:9-16).

An important aspect that is often overlooked is how the role of rivers not only function as trade channels but also support the lives of local communities. In many cases, rivers provide a source of water for agriculture, fisheries industry, and domestic needs, making them the backbone of the community's economy. The Mekong River is the best example of how rivers unite people across the boarding. This river became a source of life for millions of people in Thailand, Laos, Cambodia, and Vietnam, where it supported activities such as rice cultivation, fishing, and transportation (Stark,1998:175-203). This relationship shows how the rivers can unite people, not only economically but also socially and culturally. However, the river as a regional trade network is not missed from challenges such as pollution issues, deforestation, and dam construction that often threaten the sustainability of river ecosystems. The Mekong River faces major challenges due to the dam construction in the upper part of China, which reduces water flow to downstream countries (Urban et al.,2018:747-770). This issue raises an important question: how can rivers continue to function as unifier in the face of increasing ecological challenges? The answer to this problem requires a holistic and inclusive approach. The river should not only be seen as an economic channel but also a common heritage that requires regional cooperation to ensure its sustainability. Mekong River Commission (MRC) is an example of how commission cooperation can help manage river resources together even while still facing challenges, the MRC proves that joint management can help to resolve conflicts as well as to ensure river benefits are shared fairly (Jacobs, 2002:354-364). A similar approach can be applied to other rivers in Southeast Asia, such as the Mahakam, Kapuas, and Rajang Rivers, to ensure that it continues to support people's lives and unite communities throughout the region.



Figure (3): Traditional Water Houses in Kampung Ayer, Brunei: A Living Testament to Southeast Asia's River-based Heritage

4-3.Cultural Heritage and River Symbolism in Regional Identity

Like the oceans, rivers have long been the pulse and catalyst of civilization in Southeast Asia. However, unlike the ocean that is often seen as a symbol of global unification, rivers tend to be seen as a local element that unites certain communities. From our point of view, rivers in this region offer a deeper perspective on how water ecosystems establish cultural, social, and economic relationships. Rivers such as Mekong, Chao Phraya, Mahakam, Brunei and others are more than just waterways; they are cultural arteries that bring together the identity, traditions, and collective memory of the community that rely on them. For example, the tradition of floating markets along Khlong Hae, a canal that is connected to the water system of the U-Tapao River, Songkhla, on the Chao Phraya, the Mekong River and others is a clear manifestation of how the river becomes an economic and social centre. These markets are also a symbol of the community's dependence on the river as a source of sustenance. For instance, at Chao Phraya River, floating markets such as Damnoen Saduak offer a unique picture into water-based trading culture deeply rooted in the daily lives of the Thai community (Cohen,2016: 59-98). We see the floating market not only as an economic platform but also as a social space where social connections are strengthened. Sellers and buyers interact in an environment that shows the dynamics of water culture that has existed since ancient times. The floating market also functions as an

element of tourism attraction that strengthens the local cultural identity, while fostering a sense of pride in the river's cultural heritage. The well-known Khlong Hae Floating Market in Hatyai, Thailand located along the Khlong Hae, a canal connected to the U-Tapao River water system in Songkhla, Thailand, is a unique cultural manifestation of the local community. This floating market features a long-practiced tradition of water-based trading, where traders use small boats to sell food, drinks and local art. This tradition reflects the community's adaptation to the rivers and canals environment, as well as being a symbol of social and economic interaction that is rooted in Southeast Asian maritime culture (Gustia et al,2024:15-24 ; Abdullah,2024). The Kampung Ayer in Brunei is also an example of an extraordinary cultural adaptation to the river ecosystem. We view Kampong Ayer as a proof of the community's ability to live in harmony along the river, making it the fundamental element for their economy, social life, and cultural identity. The houses on the water, supported by the wooden poles, reflect the dependence of the Bruneian community on the river as a source of food, transportation, and shelter. In addition, Kampong Ayer is a symbol of organic relations between humans and rivers. Where the river is not only a source of life but also a unique cultural space. However, what caught our attention was how this cultural heritage continues to survive in the midst of modernisation pressure. In Brunei, although the government has developed Bandar Seri Begawan as a modern administrative centre, Kampong Ayer remains as a symbol of the country's heritage and identity (Abdullah,2024). We believe that heritage sites such as Kampong Ayer should be seen as a model of how communities can maintain their identity while adapting to an evolving era. Kampung Ayer also reflects the inclusive concept of the river as a living area, where people from different backgrounds are able to live in harmony.

The symbolism of rivers in the art, myths, and rituals of Southeast Asian societies further strengthens the role of rivers as unifiers of culture. In Hindu-Buddhist mythology, rivers are often considered sacred and associated with gods (Andaya,2016:239-263). For example, in Indonesia, the Mahakam River in Kalimantan is often associated with myths such as Putri Karang Melenu and Naga Sungai (Kurniati,2024). We see this myth not only as an aesthetic element but also as a tool that strengthens the sense of belonging and relation with the environment. The rivers also play a significant role in local community rituals. In Thailand and Malaysia, the Loy Krathong celebration involves delivering 'Krathong' or decorated small boats to the river, is a clear

example of how water is symbolised as a medium for seeking forgiveness and blessings. This ritual reflects the community's belief in the sanctity of water and their spiritual connection to it (Anad,2024). We argue that such traditions show how rivers go beyond utilitarian functions to become a profound symbolic element in the life of the community. However, these rivers are not excluded from the challenge. Urbanisation, pollution, and the development of modern infrastructure such as the dam construction often threaten the river's cultural heritage. In many places, traditions such as floating markets and water villages began to be marginalised due to economic pressure and cultural shift. We believe that the preservation of the river's cultural heritage requires a holistic approach, which not only preserves physical elements such as the rivers themselves but also the traditions, rituals, and symbolism associated with them.



Figure (4): Khlong Hae Floating Market, Thailand: A Vibrant Example of River-based Commerce and Cultural Continuity in Southeast Asia.

4-4. Ecological Challenges and River Management in Southeast Asia

The ecological challenges and river management in Southeast Asia are a complex picture of the interaction between development pressures, climate change, and historical legacies that continue to shape human relationships with natural water resources. The main rivers in Southeast Asia are not only a source of water and food; these rivers play a role as trade routes, cultural unification, and regional economic veins. However, challenges such as pollution, deforestation, dam construction, and cross-border conflict are increasingly threatening the ecosystem of this river, impacting the millions of communities that depend on it. In this context, efficient and sustainable river system management is an urgent need, even though structural, political, and social challenges continue to be the main challenges. River pollution is one of the most critical ecological issues in Southeast Asia. This study found that wastes from industrial, agricultural, and domestic use had adversely affected river ecosystems such as Mekong and Chao Phraya. The excessive use of chemical fertilisers and the disposal of toxic residues into rivers have caused damage to biodiversity and local community health (Olson and Frenelus, 2024:555-605). In Indonesia, rivers such as Kapuas and Mahakam are facing serious pollution due to the deforestation for oil palm plantations and logging activities (Randalayuk, 2021).

In Malaysia, pollution in the Klang River and Muda River reflect on how uncontrolled urban development has affected water quality (Nadzri et al, 2023:1700-1706). This situation not only threatens ecological sustainability but also poses a great risk to public health and the local economy. Even the Johor River, which plays a significant role in supplying unfiltered water to Singapore, is also facing pollution that has identified high levels of ammonia found in the river by the reports (Berita.mediacorp, 2019; Abdullah et al, 2024). Other than the pollution, the issue of transboundary water management also creates a great challenge for river management in Southeast Asia. For example, in Malaysia, the issue of the management of Muda River is an issue that has not yet been resolved beside the legal and political challenges in managing water resources fairly (Abdullah et al, 2024). Muda River is an important water source for the states of Kedah, Perlis and Penang, but the absence of riparian laws has triggered conflicts between these states (Abdullah and Zakarya, 2022:140-162). As an upstream state, Kedah needs to bear a big responsibility to maintain watershed areas such as Ulu Muda, but Penang as a downstream country gets the benefits without contributing to the

maintenance cost (Abdullah,2019). This issue reflects the failure of Malaysia's federal system to effectively regulate the sharing of water resources, where responsibility is often concentrated in upstream states, while downstream states enjoy the benefits without the same obligations. The conflict between the cross boundaries in Southeast Asia also shows how rivers becomes geopolitical battlegrounds. The Mekong River Commission (MRC), often faces challenges in aligning the interests of its member countries. China, which is not a member of the MRC, plays a dominant role in controlling water flow through the large-scale dam constructions (Urban et al.,2018:747-770).

The imbalance of power hinders genuine regional cooperation and undermines the opportunities to create fair and sustainable management. In order to deal with the challenges, a comprehensive conservation strategy needs to be implemented. Firstly, the enforcement of environmental laws must be strengthened to control the river pollution. In Indonesia, reforestation programs in watershed areas can help to restore the river ecosystem. Meanwhile, in Malaysia, the formal framework between Kedah and Penang can be established to ensure that both parties contribute to the maintenance of the Muda River. Secondly, the Integrated Water Resources Management (IWRM) approach needs to be prioritised to combine ecological, economic and social aspects in river management. For example, IWRM can be applied in the management of the Mekong River through a compensation mechanism to downstream countries affected by development in upstream countries. Thirdly, green technology innovation is able to reduce pressure on the main river. For example, the wastewater treatment system can be expanded to minimise pollution, while the development of micro hydroelectric power can be utilised without affecting the natural flow of the river. The use of technology is able to support the conservation effort and promote ecological sustainability in the long term. Clearly, the rivers in Southeast Asia are not only important ecologically but also play a role as unifiers of culture and economy. However, challenges such as pollution, deforestation, dam construction, and cross-bordering conflicts require a more holistic approach to ensure the preservation of these resources. By stressing on regional cooperation, ecological conservation, and technological innovation, we believe that rivers in Southeast Asia can be maintained as important common assets for the upcoming generation.

4-5. River as a Unification Element in the Era of Globalisation

Rivers play a significant role as a unifying element that crosses political and cultural borders in Southeast Asia and its ability to connect regions and communities continues to be relevant even in the era of globalisation. In this context, the river is not only a physical channel for transportation and trade but also a symbol of harmony, cultural heritage, and mutual dependence. Although river management is often challenged by political and national interests, the river's potential to function as a bridge towards regional cooperation and sustainable development cannot be ignored (Moradi et al., 2024:109-138). History has proven that the river has long been the pulse of civilization in Southeast Asia. For example, the Mekong River flows through six countries such as China, Myanmar, Laos, Thailand, Cambodia, and Vietnam making it the most significant river system in the region. This river not only supports the lives of millions of residents by providing the source of water for agriculture and fishing but has also become a major trade route since ancient times. History displays how rivers such as the Mekong River helps to unite the rural communities with the coastal ports, forming interdependent economic networks and empowering cultural exchanges (Stark, 1998:175-203). A similar example can be seen in Malaysia through the Muda River which is known as the backbone of Kedah, as the main state of rice producer area in this country while supporting the water needs of neighbouring states such as Perlis and Penang (Abdullah, 2024).

However, the potential of rivers to unite is often hindered by geopolitical challenges and management. For example, the Mekong River often triggers the issue of border-cross management as it often triggers tension between upstream and downstream countries. The Mekong River Commission (MRC) has been an important example of how international relations can help harmonise water resource management. By involving upstreams countries such as Laos and Thailand together with the downstream countries such as Vietnam and Cambodia, MRC strives to ensure fair and sustainable water use. Although the success of MRC is not completely perfect, this framework shows how rivers can be a unifying element when mutual interests are emphasised (Stark, 1998:175-203). MRC experience can be used as reference for other rivers in Southeast Asia, including Muda River in Malaysia. In the context of Malaysia, the Muda River issue reflects how the river is able to function as a bridge that overcomes geopolitical tensions. This river is the main source for Kedah, but also fulfils the water needs of Perlis and Penang.

Although there is no formal framework that regulates the sharing of water between these states, the relations between Kedah and Perlis are often considered harmonious as Kedah provides the water for free (Abdullah et al., 2024). However, these relations are not often as harmonious especially when Kedah feels burdened to maintain the Ulu Muda basins without financial support from the downstream cities. This situation is similar to the dynamics in the Mekong River, where downstream countries such as Vietnam often feel that they are not getting justice in water distribution (Thu and Tinh, 2019: 395-411).

In the Muda River case, the main problem is how to ensure fair sharing of water resources while maintaining ecological sustainability. An approach that involves a joint management framework is believed to help in overcoming this problem. Concepts such as the Mekong River Commission can be adapted to form the 'Muda River Commission', which combines representatives from Kedah, Perlis and Penang. This agency functions as to harmonise the maintenance of the catchment areas, determine fair financial compensation and ensure balanced water distribution. Additionally, this agency also can be the platform to address ecological issues such as river pollution and deforestation in catchment areas. Another crucial element to be integrated are the cultural heritage and history of the river. In Malaysia, Indonesia, and Brunei, the river is not only used as a transportation route but also becomes the centre of culture and community traditions. For example, Kampung Ayer in Brunei is proof of how people can live in harmony with the river ecosystems. Integrating the history and culture of rivers into modern development is able to foster a stronger regional identity. For instance, promoting river heritage as a tourist attraction may increase awareness of the importance of river conservation while contributing to the local economy.

However, this effort requires a change in the way we perceive the rivers. The traditional view that sees the river as a unifying element must be reintroduced in a modern context. For example, the proposal to integrate the river into a sustainable development plan can be implemented through a river restoration project involving the local community. Projects like this not only improve the ecological condition of the river but also reinforce the relationship between communities that depend on the river. The involvement of local communities in river conservation is crucial to ensure the sustainability of these efforts, as they are the parties who are most affected by the condition of the river. In addition, the economic approach also needs to be taken into account. Rivers

in Southeast Asia have great potential to support regional economic development. River paths can be used for trade, tourism, and hydroelectric power, but their use must be balanced with conservation efforts. A framework such as ASEAN can play an important role in harmonising these efforts, especially in ensuring that the use of rivers does not disadvantage upstream or downstream communities.

5. Conclusion

This study aims to understand how rivers in Southeast Asia have played a vital role as a unifying element that crosses political and geographical boundaries. The role of the river as a connector is not only physical but also reflects the economic, cultural, and social relationships that have formed the civilisation and identity of the region. This study highlights that, similar to the sea, rivers serve as a medium of exchange and interaction that creates a network of connections between distant and diverse communities. The thesis of this study is that rivers in Southeast Asia are not only important routes for trade and diplomacy but also serve as “cultural bridges” that bind communities through shared memory, ritual, and symbolic meaning. However, modern pressures such as globalisation, infrastructure development, and political competition have changed the traditional function of rivers, making them the cause of conflicts and ecological challenges. In this context, rivers need to be seen not only as a source of water but also as a cultural and political asset that requires holistic and inclusive management. The main argument of this study is that rivers in Southeast Asia have immense potential to support regional cooperation, but this potential is often hindered by modern political boundaries and the lack of a collective management framework. Routes such as the Mekong River show how the conflict of interests between upstream and downstream countries creates tension in resource sharing. Likewise, the Muda River in Malaysia reflects how issues of distributive justice in water management can become points of conflict between states. To address this, the study proposes the formation of a Muda River Commission an original contribution inspired by the Mekong River Commission model aimed at harmonising resource use, financial contributions, and ecological responsibilities between Kedah, Perlis, and Penang. This proposed body would act as a platform for water diplomacy and shared governance at the subnational level, while also incorporating local cultural knowledge in its approach.

This study puts forward several important suggestions to utilise the potential of rivers as a unifying element. Firstly, cross-border cooperation through initiatives such as the Mekong River Commission needs to be expanded and strengthened, not only for the Mekong River but also for other rivers in Southeast Asia. Secondly, the preservation of river-based cultural heritage, such as floating markets and water villages, needs to be the main agenda in development planning. Thirdly, governments and regional institutions need to introduce policies that support sustainable development along the river basin. In conclusion, this study not only provides an in-depth view of the role of rivers in regional history and culture but also offers new conceptual and institutional insights into how rivers can be reimagined as both cultural and political bridges in the age of globalisation. By recognising these dimensions and supporting initiatives like the proposed Muda River Commission, Southeast Asia has the opportunity to transform its rivers from contested resources into shared heritage and instruments of cooperation. With a more inclusive and sustainable approach, rivers can continue to play a vital role in fostering regional relationships, reflecting the true spirit of unity and ecological resilience.

6.Acknowledgement

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

پښتونستان د علومو انساني و مطالعاتو فرېشنې
پرتال جامع علوم انساني

References

1. Abdullah, M.F. (2019). Pembangunan bekalan air domestik di Negeri Kedah, 1957–1992. (Doctoral dissertation, Universiti Malaya)
2. Abdullah, M.F. (2024). Field Trip to Brunei.
3. Abdullah, M.F. (2024). Field Trip to Khlong Hae Floating Market di Hatyai, Thailand.
4. Abdullah, M.F. (2024). Sustainable Development Goals (SDGs) Through the Water Treaty Between Kedah and Perlis (1971-1999): Implications for Water Resource Management and Equitable Resource Sharing in Malaysia and Globally. *Thammasat Review*, 27(2), 197-224.
5. Abdullah, M.F; Noor, M; Chee Seng, T; Wan Ibrahim, W.K. (2024). The Water War between Kedah-Penang in Malaysia: The Relation in the Management of Sungai Muda Raw Water, 1965–1985. *Geopolitics Quarterly*, 20(74), 151-170.
6. Abdullah, M.F; Padzil, R; Nordin, M. (2024). The Impact of Inter-Basin Water Transfer between Johor and Singapore on Johor's Water Supply System, 1927 to 1941. *MANUSYA: Journal of Humanities*, 27(1), 1-22.
7. Abdullah, M.F; Zakarya, Z. (2022). Politik Air di Negeri Perlis dalam Pilihan Raya Umum (PRU) ke-14. *SEJARAH: Journal of the Department of History*, 31(1) (June), 140-162.
8. Ali, I; Abdullah, M.F. (2024). Tracing The Heritage and Civilization of Austronesian Seafarers Across Waters, Seas, And Oceans in the Archipelago of Southeast Asia. *Applied History Journal of Merong Mahawangsa*, 2, 41–55.
9. Ali, I; Abdullah, M.F. (2024). Waters of Unity: Maritime History of Nusantara From Hindu-Buddhist Kingdoms To The Pre-Colonial Era. *Asian Journal Of Environment, History And Heritage*, 8(2), 67-81.
10. Anad, M. (2024). Sejarah Sosial Masyarakat Siam di Kedah: Kajian Terhadap Pembangunan Agama, Pendidikan, Dan Budaya, 1957-2012. (Doctoral dissertation, Universiti Malaya).
11. Andaya, B.W. (2016). Rivers, oceans, and spirits: Water cosmologies, gender, and religious change in Southeast Asia. *TRaNS: Trans-Regional and-National Studies of Southeast Asia*, 4(2), 239-263.
12. Andaya, L.Y. (2018). Water in the Study of Southeast Asia. *KEMANUSIAAN: The Asian Journal of Humanities*, 25 (1), 21–38.
13. Aung-Thwin, M; Aung-Thwin, M. (2013). A history of Myanmar since ancient times: Traditions and transformations. Reaktion Books.
14. Azhar, S.C. (2021). Land Use and River Water Quality Relationships in the Muda River Basin, Malaysia. *Educatum Journal of Science, Mathematics and Technology*, 8(1), 36-48.
15. Baker, C; Phongpaichit, P. (2017). A history of Ayutthaya. Cambridge University Press.

16. Bellwood, P. (2007). Prehistory of the Indo-Malaysian Archipelago: revised edition. ANU Press. <https://berita.mediacorp.sg/singapura/ancaman-terbesar-kemampuan-sungai-johor-adalah-kurangnya-177681>
17. Chias, P; Abad, T. (2012). Colonial Urban Planning and Land Structures in the Philippines, 1521-1898. *Journal of Asian Architecture and Building Engineering*, 11(1), 9-16.
18. Cohen, E. (2016). The Permutations of Thailand's "Floating Markets". *Asian Journal of Tourism Research*, 1(1), 59-98.
19. Dick, H; Rimmer, P.J; Dick, H; Rimmer, P.J. (2003). Rivers: Chao Phraya, Irrawaddy and Mekong. Cities, Transport and Communications: The Integration of Southeast Asia since 1850, 155-185.
20. Gupta, A. (2005). Rivers of Southeast Asia. *The Physical Geography of Southeast Asia*, 4, 65.
21. Gustia, H; Haryanto, L.I; Darto, D; Hendrawati, T.Y; Mahendra, O; Lemsoh, J. (2024). Development of Educational Tourism Model Based on Local Competency at Sangkhom Islam Wittaya School Thailand. *Journal of Applied Sciences and Advanced Technology*, 7(1), 15-24.
22. Hassan, N.H; Yong, G.Y. (2019). The cultural value of bakuts in Kampong Ayer, Brunei Darussalam. *Southeast Asia: A Multidisciplinary Journal*, 19, 47-63.
23. Higham, C. (1989). The archaeology of mainland Southeast Asia: from
24. Hirsch, P. (2010). The Changing Political Dynamics of Dam Building on the Mekong. *Water Alternatives*, 3(2), 312-323.
25. Houben, V.J. (2003). Southeast Asia and Islam. *The ANNALS of the American Academy of Political and Social Science*, 588(1), 149-170.
26. Hudson, A.B. (1967). The Padju Epat Ma'anjan Dajak in Historical Perspective. *Indonesia*, (4), 8-42.
27. Ibrahim, F; Ghani, S.S.A. (2018). Socio-economic impact of revitalization: the case of bandar seri begawan, brunei darussalam. *International Journal of Regional Development*, 5(2), 1-19.
28. Idris, H; Ramli, M.F. (2018). Southeast Asian region maritime connectivity and the potential development of the northern sea route for commercial shipping. *JATI-Journal of Southeast Asian Studies*, 23(2), 25-46.
29. Jacobs, J.W. (2002). The Mekong River Commission: transboundary water resources planning and regional security. *Geographical Journal*, 168(4), 354-364.
30. Jones, A. (1997). Urban conservation issues in Brunei Darussalam: the case of Brunei's water villages. *Planning Perspectives*, 12(4), 457-475.

31. Kiyai, G; Tugang, N. (2023). Perau Bangkong as an Iban Weapon of War: A Cultural Materials Analysis. *Melayu: Jurnal Antarabangsa Dunia Melayu*, 16(2), 185-208.
32. Kurniati, N. (2024). *Dinamika Mitos Putri Karang Melenu dan Naga Sungai Mahakam Kalimantan Timur: Analisis Ekofeminisme Spiritual Starhawk* (Doctoral dissertation, Uin Sunan Kalijaga Yogyakarta).
33. Linh, N.H.B. (2023). *Archaeology of the Oc Eo Culture (Southern Vietnam) Exploration, Research, and Achievements*(Doctoral dissertation, Kanazawa University).
34. Linuma, T. (2001). *The Mekong: Turbulent Past, Uncertain Future*.
35. Mahdini, M. (2018). Satu Sejarah Sosioekonomi Daerah Meradong Sebelum Tahun 1984. *Jurnal Borneo Arkhailogia (Heritage, Archaeology and History)*, 2(1), 135-147
36. Manguin, P.Y. (2021). Srivijaya: Trade and connectivity in the pre-modern Malay world. *Journal of Urban Archaeology*, 3, 87-100.
37. Mianabadi, H; Amini, A. (2019). Complexity of water, politics, and environment in the Euphrates and Tigris river basins. *Geopolitics Quarterly*, 15(54), 54-86.
38. Mokhtari Hashi, H; Ghaderi Hajat, M. (2008). Hydropolitics in the Middle East in 2025 Case Study: the Basins of Tigris, Euphrates, Jordan & Nile Rivers. *Geopolitics Quarterly*, 4(11), 36-74.
39. Molle, F; Wester, P; Hirsch, P. (2010). River basin closure: Processes, implications and responses. *Agricultural Water Management*, 97(4), 569-577.
40. Moradi, A; Azami, H; Papoli Yazdi, M.H; Zarghani, S.H. (2024). Analysis of the Role of Political Management of Space Components on the Sustainability of Water Resources. *Geopolitics Quarterly*, 20(73), 109-138. **[In Persian]**
41. Nadzri, N.F.N.M; Hod, R; Daud, F. (2023). Pengetahuan, Sikap dan Tingkah Laku Komuniti Sungai Klang Terhadap Pencemaran Sungai. *International Journal of Public Health Research*, 13(2), 1700-1706.
42. Nasir, A.H. (2005). *Lembangan sungai dalam peradaban Melayu*. Penerbit Universiti Kebangsaan Malaysia.
43. Nosrati, H; Kaviani Rad, M; Sasanpour, F. (2020). A Foucauldian Analysis of "Water security "Concept in Terms of Political Geography and Geopolitics. *Geopolitics Quarterly*, 15(1), 23-59. **[In Persian]**
44. Olson, K.R; Frenelus, W. (2024). Environmental and Human Impacts of Lancang-Mekong Mainstem and Tributary Dams on China, Laos, Thailand, Myanmar, Cambodia, and Vietnam. *Open Journal of Soil Science*, 14(10), 555-605.
45. Porok, L. (2022). Perkembangan Kesihatan Masyarakat Dayak di Sarawak, 1946-1963. *SEJARAH: Journal of the Department of History*, 31(2), 74-97.

46. Randalayuk, J. (2021). *Perlindungan Hukum Terhadap Kualitas Air Sungai Mahakam Dari Kegiatan Pengelolaan Lahan Di Kota Sendawar Kalimantan Timur*. (Doctoral dissertation, Universitas Atma Jaya Yogyakarta).
47. Schönach, P. (2017). River histories: a thematic review. *Water History*, 9(3), 233-257.
48. Somers Heidhues, M. (1998). The first two sultans of Pontianak. *Archipel*, 56(1), 273-294.
49. Stark, M.T. (1998). The transition to history in the Mekong delta: a view from Cambodia. *International Journal of Historical Archaeology*, 2, 175-203.
50. Thu, T.M; Tinh, L.D. (2019). Vietnam and Mekong cooperative mechanisms. *Southeast Asian Affairs*, 395-411.
51. Urban, F; Siciliano, G; Nordensvard, J..(2018).. China's dam-builders: Their role in transboundary river management in South-East Asia. *International Journal of Water Resources Development*, 34(5), 747-770.
52. Utomo, D.M; Mateo-Babiano, I. (2015). Exploring indigeneity of inland waterway transport (IWT) in Asia: case studies of Thailand, Vietnam, the Philippines, and Indonesia. *Journal of the Eastern Asia Society for Transportation Studies*, 11, 2316-2332.

COPYRIGHTS

©2023 by the authors. Published by the Iranian Association of Geopolitics. This article is an open-access article distributed under the terms and conditions of the Creative Commons Attribution 4.0 International (CC BY 4.0) <https://creativecommons.org/licenses/by/4.0>



پژوهش‌های جغرافیایی
پرتال جامع علوم انسانی