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Malaysia's Artisanal Fishermen: Political Ecology and Survival

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Fisherman Pak Alo Ketam of Mukim Tg Kupang with his daily boatload of blue flower crabs. Photo taken by Serina Rahman on 18 November 2018.

* *At the time of writing, Serina Rahman was Visiting Fellow at the Malaysia Programme, ISEAS – Yusof Ishak Institute.* *This publication is the second in a series on Malaysian Artisanal Fishermen based on a 14-year immersion in an artisanal fishing community in southwest Johor, Malaysia. Serina is indebted to this community for their patient sharing of knowledge, heritage and time for the publications that resulted from this long-term fieldwork.*

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EXECUTIVE SUMMARY

- Artisanal fishermen have sustained countless communities that mushroomed along the Malay Peninsula's coast throughout history, and even today, they make up 60% of those involved in the fisheries industry. Should they be allowed to die out, generations-old fishing heritage, local knowledge, maritime expertise and climate change observations will be lost.

- Artisanal fishermen are at the bottom of the fishing hierarchy. At times, access to aid and assistance is blocked by those who purport to represent them, but who have their own vested political interests. Some community groups have however been able to bypass these representatives to attain direct assistance from the Department of Fisheries.

- The artisanal fisheries sector supports poor rural and coastal communities economically in more ways than just through local incomes and livelihoods. Upstream and downstream industries are also dependent on these fishermen, and the supply chain as a whole supports a myriad of small-scale businesses, entrepreneurs and industries. Fishing is also a safety net for many of the bottom 40 economic percentile of communities (B40), especially during times of unexpected crises like the Covid-19 pandemic.

- Artisanal fishermen in Malaysia make up the majority of professional seamen, but bring home the least catch, earn the least income and garner the least subsidies. Support of the industry is vital for long-term fisheries sustainability, as well as for better resilience and adaptation to climate change.

- Local knowledge of and input from the fishing community is important for more effective policy-making, as well as for ensuring that the community participates in and takes ownership of these initiatives. Fishermen should also be roped in as active partners and actors in the implementation and protection of Community Conservation Areas (CCAs).

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INTRODUCTION

As with almost everything else across Malaysia, seafood prices have been rising. Myriad media reports of upcoming and ongoing coastal developments have highlighted the resultant habitat damage on small-scale traditional fishermen. Yet, at the same time, environmental reports paint a gloomy picture of declining global fish stocks, inspiring some to tweak the age-old adage "Give a man a fish and you feed him for a day; teach a man how to fish and you feed him for a lifetime" to "Teach a man how to fish and he empties the seas; teach him to farm instead".

This paper examines the political ecology of Malaysian artisanal or traditional fisherman in order to identify oft-overlooked factors that affect their livelihoods and future.[1] The rich heritage of these fishermen is briefly explored before the governance and hierarchy they live under are examined. An understanding of the politics of the fisheries system is then used to explain the economic limitations that they face. The paper closes with an examination of the long-term sustainability of fisheries communities.[2]

MALAYSIAN ARTISANAL FISHERIES HERITAGE

Artisanal fishermen are nearshore (coastal) or inshore (within rivers) fishermen. They travel within straits, estuaries and rivers for less than a day within five nautical miles from shore, using floating gill nets, cast nets, traditional long-lines (a single fishing line with many hooks), traps and the simple fishing rod.

These fishermen are essentially descendants of the traditional, small-scale fishermen who had plied the Malay peninsula's coasts long before Malaysia was formed. Their vessels are usually less than 22 feet long (6.7 metres) with engines of up to 40 horsepower. The key to being successful is the ability to read the currents, tide, water temperature and weather. This comes from generational experience and first-hand exposure to the elements, combined with an ability to read barely discernible signals of impending storms and other dangers. In addition, an acute awareness of species seasonality, migration patterns and spawning behaviour are also needed.

There is furthermore a unique heritage tied to fishing communities that is often forgotten as the natural resources die out, or when organised religion forces the elimination of fishing rituals, spiritual practices and consciousness of taboos. Some of these 'superstitions' actually harbour community-derived means of protecting species from depletion, such as guidelines to stop harvesting shrimp, articulated as a means to prevent the appearance of a crocodile spirit. Social bonds and informal organisations born of the camaraderie and mutual assistance found in seafaring communities also fade as people stop looking out for each other.

Governance, hierarchy and politics

While the immediate physical threats to fishermen and their livelihoods are important to consider, there is an even greater need to understand the many structural and institutional issues

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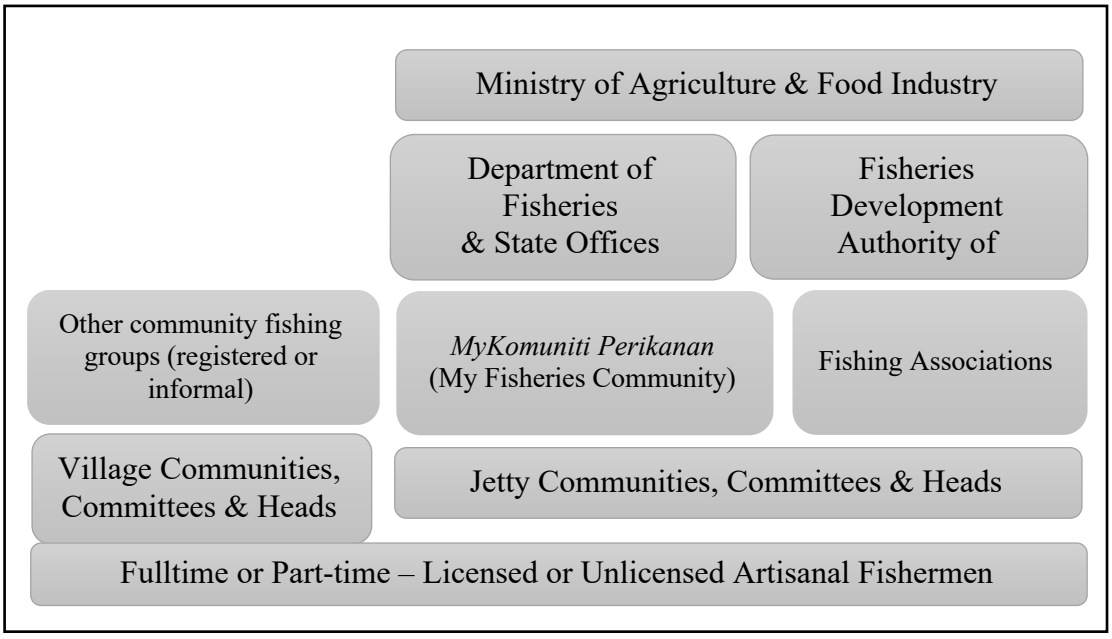
standing in the way of artisanal fishermen's well-being and survival. Figure 1 below illustrates the structure under which fishermen in Malaysia function.

Figure 1: Governance structure of Malaysian Artisanal Fishermen



Note: The presence of community fishing groups, My Fisheries Community organisations and fishing associations are unique to every location that may have fishermen. In some cases, fishermen numbers are so small that they are not organised in any way, and may just fall under the purview of jetty or village heads.
Source: Author's ethnographic observation of artisanal fishing communities (2007-2022)

The above figure demonstrates that there is quite a distance and multiple layers between a rural coastal fisherman and the government agency that oversees or governs him.

The Department of Fisheries (DoF) and its state branches oversee all issues in relation to fishery resources and fishermen, and have a number of other agencies under it that support this role.[3] The Fisheries Development Authority of Malaysia (LKIM) is an agency that is also parked under the Ministry of Agriculture and Food Industry which assists fishermen with economic development and infrastructure (such as the building and maintenance of jetties, etc.).[4]

The average fisherman is often unable to tell the difference between the two agencies, and often has no desire to understand the details.[5] In many locations, a fishing association purports to represent the fishermen of the area, and may work closely with LKIM for fishing licenses, jetty building and repairs, and financial assistance. However, it is often the case that in lobbying for access to funds, land and other opportunities for the fishermen, these associations become political, or are heavily influenced by or tied to political entities. Sometimes, they then serve other interests than those of actual fishermen.[6]

In Mukim Tanjung Kupang, Johor for example, some fishermen have set up their own registered clubs or unregistered informal groups to oversee fishermen's matters, usually tied to

the jetty they share. While, for the most part, they are able to function independently of the fishing association in the area, some matters are believed to only be possible through the association given its history in the area, long relationship with fisheries agencies, or influential politicians and their parties.

This then makes it difficult for groups who may not be on good terms with the dominant fishing association in the area to gain access to license applications, promised aid from the government and other opportunities. This situation is sometimes due to a lack of understanding of the actual roles of the fisheries agencies above them. Direct engagement with the Fisheries Department can help to reduce this confusion, but access to it is not always available to the average fisherman.

One jetty in this sub-district, with fishermen officially registered as a social enterprise and a cooperative, have also signed up as *MyKomuniti Perikanan (MyKP)*, a DoF initiative that deals directly with fishermen to help them diversify their sources of income, as well as support fisheries-related economic activities (such as downstream seafood processing and product development, as well as ecotourism). This has thus enabled them to bypass the fishing association that many of the younger, part-time fishermen have been at loggerheads with due to perceived cronyism and a lack of transparency, to request for fishing licenses and other aid. There are now 153 MyKP groups across Malaysia since the programme's launch in 2021; an indication of the desire of small-scale fishermen to mobilise and engage directly with the Fisheries Department.

There are other observed areas in Peninsular Malaysia where inland or coastal fishing communities are able to work together to improve their lot. Communities in these locations are characteristically less interested in personal gain, are not manipulated by entities with political vendettas, and are able to successfully and seamlessly cooperate (usually under a visionary village head) to strengthen local incomes, protect natural habitat areas and preserve their livelihoods.[7]

Unfortunately, the former scenario is far more common. In Penang, for example, there are multiple fishing entities and associations claiming to represent the fishermen there, especially in the face of coastal development. However, these groups do not necessarily share the same intentions or interests, and there are always individuals who feel that their needs are not being met or spoken for, as well as disagreements between the groups. At times, they dispute decisions made on their behalf by the fisheries agencies.[8]

Added to the quagmire is village politics which may come in the form of a village or district head or other community committees that may not have the same goals as the fishermen groups. These complications often arise in areas that are already substantially developed, have residents who depend on other sectors (and not just fishing) for a living, and for whom fishing is fast becoming a dying trade. At times, family or village feuds (in larger sub-districts) add to the lack of cohesion or tension between groups.[9]

It is for this reason that fishermen are sometimes inadequately represented, or are unable to get the assistance they are entitled to. As rural residents largely in the bottom 40 economic

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percentile (B40), they have little to no voice on their own. While the rural base is an important electorate, this has decreased in value over the past few elections, informed by disenchantment with political processes and machinations.[10]

Often disparaged as "stubborn locals" who get in the way of economic progress, and publicly derided by some political leaders as being "lazy" for not wanting to take up other professions,[11] fishing communities often do not have the money, power or political clout to defend their right to preserve a long-held craft or protect the marine and coastal ecosystems they depend on.

THE ECONOMICS OF THE ARTISANAL FISHERY

Traditional, small-scale fishermen make up the majority of the entire Malaysian fishing industry, yet they land the smallest volume of catch (in comparison to large industrial trawlers)[12] and earn minimal incomes for being at the bottom of the sales and purchasing hierarchy.[13]

Given the lower costs that they are perceived to bear given their smaller boats and simpler equipment, they also receive less subsidies overall. Figure 2 below provides a comparison of selected boat expenses, subsidies and earnings between Zones A, B and C, based on a 2019 review (Lee, W.C. & Viswanathan, K.K. 2019).

Figure 2: Comparison of Selected Expenses, Subsidies and Earnings between Selected Boats in Different Fishing Zones.

Zone	**A**	**B**	**C**
Trips per month	18	13	8
Livelihood subsidy per month	RM220	RM225	RM200
BR1M[14] (Direct financial aid)	RM54	RM54	-
Fuel subsidy per month	RM382	RM4,334	RM4981
Total subsidies cited	**RM656**	**RM4,613**	**RM5,181**
Cost of fuel per month	RM7250	RM11,600	RM40,455
Fuel as a percentage of operating cost	66.79%	32.94%	63.69%
Estimated total costs per month*	RM10,854	RM35,215	RM63,518
Subsidies percentage of estimated total costs*	6%	13%	8%
Average net income per month per boat	**RM211.64**	**RM1,945.45**	**RM10,676.27**

Note: Zone A fishermen are coastal, nearshore and inshore fishermen that use traditional boats and equipment and travel up to 8 nautical miles from shore, including anchovy purse seiners. Small-scale fishermen usually travel alone or in pairs, while the larger vessels can take up to 10 crew members. These fishermen do many more trips to sea for shorter periods of time. Zone B fishermen ply waters between 8 to 15 nautical miles from shore, in trawlers and purse seiners. Zone C vessels include trawlers, purse seiners and long-liners that travel beyond 15 nautical miles from shore; they are almost always manned by migrant labour. Zone B and C fishermen stay out at sea for longer periods of time. (SEAFDAC: http://www.seafdec.org/fisheries-country-profile-malaysia/). Fisheries subsidies are allocated via the Ministry of Agriculture, through the Department of Fisheries or LKIM.
*Calculated and added to the table based on figures provided in the source publication
Source: Figures extracted from: Lee, W.C. & Viswanathan, K.K. 2019. Subsidies in the Fisheries Sector of Malaysia: Impact on Resource Sustainability. Review of Politics and Public Policy in Emerging Economies. *1(2): 79-85 (Table 4 on p.83). Table is author's own.*

The figures above indicate that while the costs of the boats in Zones B and C are higher (as are their associated incomes), the accompanying percentage of assistance that they receive is higher, and they would usually be backed by large companies with substantial funds at hand. Artisanal fishermen on the other hand, do not have access to such monies, and also receive less assistance (based on this study at this time). It can be argued that the Zone A small-scale fishermen are the segment of fishermen that need this assistance most in order to survive, yet may not have access to it.

This assessment becomes even more dire when the income contribution effect is taken into account. Given that Malaysian traditional fishermen often fall into the B40 category, the actual value of every Ringgit earned is far higher than its numerical monetary value (Béné, 2006). This is because of the difficulties faced by these communities in raising cash. Earning cash (either through subsidies provided for boats, equipment, petrol etc.) enables fishing families to

have access to basic services and other consumption needs (food, health, education, clothes etc.). A pre-determined average income effect multiplier for Malaysian small-scale fishermen of 0.703 (Dyck and Sumaila, 2010) indicates that every Ringgit earned by a fisherman has almost twice its actual value.

The health of the seas also determines the fishermen's ability to access this cash (by heading out more frequently, or diversifying their target species to boost their cash incomes). The sea becomes a 'bank' that people can turn to in times of difficulty (Béné, 2006). This was seen in Mukim Tanjung Kupang during the Covid-19 period, as several of those who lost their factory or other jobs as a result of pandemic lockdowns turned to fishing.[15] For rural and poor communities then, the seas become a safety net when there is nowhere else to turn for a source of food or income.

The above discussion highlights the importance of financial or other support to artisanal fishermen for their personal livelihood and wellbeing. In addition, the artisanal fishery also supports several upstream and downstream small-scale industries, such as net-making and engine repairs (upstream), and fish processing or production (downstream). The actual value of this fishery is therefore far higher than the monetary value calculated in mere landing values once it includes upstream Economic Input Values (EIV), (World Wildlife Fund-Malaysia, 2013) and Downstream Economic Values (DEV), (Teh and Sumaila, 2010).

It is especially important to note that industries made up of small-scale participants continue to support other small-scale (often also B40) entities both upstream and downstream, meaning that they are vital components of marginalised and rural economies that cannot be ignored or allowed to collapse (Teh and Pauly, 2018). In a case study of one jetty in Mukim Tanjung Kupang, calculation of the actual value of the local artisanal fisheries economy taking into account the EIV and DEV resulted in a total value of RM1,458,049 (USD327,174) per year, a value that is almost six times the recorded fish landing value of RM244,743 (USD54,914) per year.[16] This indicates how valuable the artisanal fishery is to a rural coastal community.

ARTISANAL FISHERY SUSTAINABILITY

Much discussion has already gone into the usual threats to artisanal fishery habitats.[17] However, issues such as climate change and coastal developments are beyond the control of traditional fishermen; instead, they are at the receiving end of its impacts. This does not mean, however, that the fishermen are unable to do anything at all to protect their long-term livelihoods and target species.

While acknowledging that some change and decline is inevitable due to decisions and events beyond their ken, one jetty (Pasar Pendekar Laut) in Mukim Tanjung Kupang has put into place a sustainable fisheries programme to ensure that its fishermen do what is within their control to protect local endangered species. Seafood caught and sent to the jetty have to meet minimum size and quality requirements and endangered species such as shovelnose rays, eagle rays and sharks are released if still alive in their nets or on their lines. The fishermen document the

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species' weight, length, sex and location, and report the information at the jetty for local records. They are also spotters for other charismatic species such as dugongs, seahorses, dolphins, whale sharks and otters for which ongoing community research is being conducted.

This is just one of myriad community initiatives where fishermen are roped in as habitat experts to not only release species that should be protected, but to also be involved in their documentation and monitoring. There are many inland fisheries' community efforts such as this, which protect species such as toli shad (*ikan terubok*) so that they can recover from near extinction to breed. At times, controlled capture is allowed, but only when spawning season has passed.[18]

While these are laudable grassroots initiatives, they are often hampered by the capture of the same specimens by fishermen not involved in the programme, or who are entering the area from other jetties. This often results in tension between community members, as well as complaints from those involved in the catch and release initiative who find it hard to reconcile their species release with the ability of others to land their catch.

The Fisheries Department needs to be able to support such initiatives with the implementation of fines or punishment of those who catch and land endangered species. However, this can only be possible if Malaysia ratifies international conservation laws to begin with (many are not ratified),[19] and if the department has enough manpower to enforce conservation regulations, once they are put into place.

The involvement of fishermen in the protection of Community Conserved Areas (CCA) stipulated in the Malaysian National Policy on Biological Diversity,[20] as the examples above have illustrated, is the way forward in protecting artisanal fisheries areas. It also provides traditional fishermen with additional incomes for their contribution as marine rangers in CCA protection and monitoring.

A multi-stakeholder platform that brings together all entities in an area (from developers to agencies to local communities) to work together to monitor local changes, mitigate habitat damage and act quickly to ratify environmental problems or accidents can ensure that CCAs are genuinely effective in ensuring the sustainability of multiple-use resources areas for all parties involved.[21]

Small-scale fisheries have been recognised as the way forward in the fight against climate change due to their ability to adapt and remain resilient by evolving catch methods to pursue target species (Green et al. 2021). This sector has also been highlighted as the way forward in protecting dwindling fish stocks, with less wastage for every catch made, and for the limited damage incurred by traditional equipment and boats (Hendricks, S.L., 2022). The trend towards increased demand for authentic artisanally-caught seafood (deemed sustainable and chemical-free) speaks towards this growing consciousness and desire for responsible consumption.

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CONCLUSION

While Malaysian artisanal fishermen are bound by somewhat complicated hierarchical structures which at times can restrict their access to financial aid and fisheries support, myriad groups have proven that they are able to find a way around institutional obstacles to access opportunities and demand their dues. Fishing cooperatives such as the one set up in Mukim Tanjung Kupang now pay the fishermen twice the price of that paid by middlemen, ensuring better comparative incomes even as fish landings decrease.

Grassroots efforts to protect the natural resources that their livelihoods depend on have established the first steps in habitat protection, but now needs to be reinforced with effective implementation of existing policies, and the establishment and enforcement of species protection regulation.

The economic analysis above demonstrates that less support is actually given to small-scale fisheries in spite of the value that they bring to poor, rural and coastal communities. The extent of the positive economic impact that the small-scale fisheries sector brings to these B40 communities has also been shown to be six times the value of their catch. Countless international organisations and climate change resolutions have lauded the value of local knowledge in the fight for long-term sustainability. Inputs from these fishing communities are vital at all levels of decision-making for effective policy implementation and positive impact. This deconstruction of the Malaysian artisanal fishery through a political ecology lens may help to identify the factors to consider in ensuring long-term financial and ecological sustainability for poor coastal communities. As the world moves towards resilience and adaptation in responding to climate change, Malaysia too can take more innovative measures to assist those who need help the most.

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World Wildlife Fund-Malaysia. 2013. 'An Assessment of Fisheries and Marine Ecosystems in Peninsular Malaysia'. WWF-Malaysia: Kuala Lumpur, Malaysia.

ENDNOTES

[1] The information presented here is based on the author's long immersion in and ethnographic observation of fishing communities, mainly in the western Tebrau Strait, as well as in other parts of Peninsular Malaysia. Examples from Mukim Tanjung Kupang, Johor are provided to corroborate cited published information.

[2] This paper is the second in this series and will focus on the aspects of governance, economy, history and society on artisanal communities. While the first paper has already evaluated attempts to alleviate the difficulties faced by artisanal fishermen, this publication will discuss the viability and necessity of keeping small-scale nearshore fishing traditions alive for long- term fisheries sustainability and climate change adaptation. The earlier publication by this author examined climate change and Covid-19 impacts on this community. Refer to: Malaysian Artisanal Fishermen: Rahman, S. 2022. The Endangered Malaysian Artisanal Fisherman: Battered by Climate Change and Covid-19. Perspective 2022/60. ISEAS-Yusof Ishak Institute, Singapore. https://www.iseas.edu.sg/articles-commentaries/iseas-perspective/2022-60-the-endangered-malaysian-artisanal-fisherman-battered-by-climate-change-and-covid-19-by-serina-rahman/

[3] Refer to the Department of Fisheries, Malaysia website at: https://www.dof.gov.my/en/

[4] Refer to the Fisheries Development Authority of Malaysia website at: https://lkim.gov.my/en/

[5] Personal communication and discussions with various fishermen between 2007-2022.

[6] Author's ethnographic observation and documentation of fisheries communities between 2008 and 2022, as well as personal communication, and formal and informal interviews with several fishermen over the study period.

[7] One such community observed by the author is the Lenggong Valley fishing community (also a registered MyKP) in Hulu Perak, Malaysia.

[8] Refer to: Mok, O. 17 Sept 2021. "Veteran fishermen plead for Penang three island project to be approved for the sake of future generations," Malay Mail.

https://www.malaymail.com/news/malaysia/2021/09/17/veteran-fishermen-plead-for-penang-three-island-reclamation-project-to-be-a/2006169. And Harbinson, R. 2017. "Is the new development boom in Malaysia leading to fisheries bust in Penang?" Mongabay. https://news.mongabay.com/2017/04/is-a-property-boom-in-malaysia-causing-a-fisheries-bust-in-penang/

[9] Author's ethnographic observation and documentation of fisheries communities between 2008 and 2022, as well as personal communication, formal and informal interviews with several fishermen over the study period. This is the situation in Mukim Tanjung Kupang, Johor.

[10] Refer to: Rahman, S. 2018. *Malaysia's General Elections 2018: Understanding the Rural Vote*. Trends in Southeast Asia 2018/9. ISEAS – Yusof Ishak Institute. And Rahman, S. 2018. "Rebellion and regret: Talking to rural voters after GE14," New Mandala. https://www.newmandala.org/rebellion-and-regret-ge14/

[11] Refer to: Malaysiakini. 6 September 2019. "Blaming other races won't resolve issues faced by Malays, says Mahathir." https://www.malaysiakini.com/news/490906

[12] Refer to: Teh, L.C.L. and Pauly, D. 2018. Who Brings in the Fish? The Relative Contribution of Small-Scale and Industrial Fisheries to Food Security in Southeast Asia. *Frontiers in Marine Science*, 5: 1-9. DOI: 10.3389/fmars.2018.00044. Note that a decrease in comparative catch volumes occurred after the government began to focus on open and deep-sea trawling after a series of National Economic Plans in the mid-1960s.

[13] Author's ethnographic documentation of fisheries communities, especially fish markets in Mukim Tanjung Kupang between 2016 and 2022, as well as personal communication, formal and informal interviews with several fishermen over the study period, and almost daily observation and interaction with fishermen, buyers and middlemen at the Pasar Pendekar Laut fish market in Mukim Tanjung Kupang during the 2.5-year -long Covid-19 lockdown period (2020-2022).

[14] BR1M stands for Bantuan Rakyat 1 Malaysia – a form of direct aid to poorer communities initiated by the Malaysian government when Najib Razak was Prime Minister.

[15] Refer to Rahman, S. 2022. The Endangered Malaysian Artisanal Fisherman: Battered by Climate Change and Covid-19. ISEAS Perspective 2022/60. ISEAS – Yusof Ishak Institute, Singapore.

[16] Refer to Rahman, S.A. and Yaakub, S.M. 2020. Socio-economic valuation of seagrass meadows in the Pulai River Estuary, Peninsular Malaysia, through a well-being lens. *Marine and Freshwater Research* 71: 877-891.

[17] Refer to Rahman, S. 2022. The Endangered Malaysian Artisanal Fisherman: Battered by Climate Change and Covid-19. ISEAS Perspective 2022/60. ISEAS – Yusof Ishak Institute, Singapore.

[18] Refer to: Bakeri, N.A.; Marikan, A. and Abdullah, A.M. 2019. Perception of local communities towars the conservation of Terubok. *Journal of Public Administration and Governance* 9(3): 143. DOI: 10.5296/jpag.v9i2.15232. And Awg Kasim, A.A.; Wong, P. and Kairulniezawaynie. 2012. The Terubok (Tenualosa spp.) Rehabilitation Integrated Program (TRIP) and conservation in Sarawak. UMT 11th International Annual Symposium on Sustainability Science and Management. 9-11 July, 2012. Terengganu Malaysia. https://www.yumpu.com/en/document/read/19978854/the-terubok-tenualosa-spp-rehabilitation-integrated-program-

[19] Personal communication with Department of Fisheries Johor staff, 19 June 2022 (staff names withheld)

[20] Refer to https://www.ketsa.gov.my/ms-my/pustakamedia/Penerbitan/National%20Policy%20on%20Biological%20Diversity%202016-2025.pdf

[21] These areas are not preserved as Marine Protected Areas because they are already designated as industrial, residential or other multiple-use areas – yet they are also the backbone of local traditional livelihoods such as the artisanal fishery.

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