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Ecological Wisdom in Southeast Asia:
Rethinking Resilience, Justice and Sovereignty

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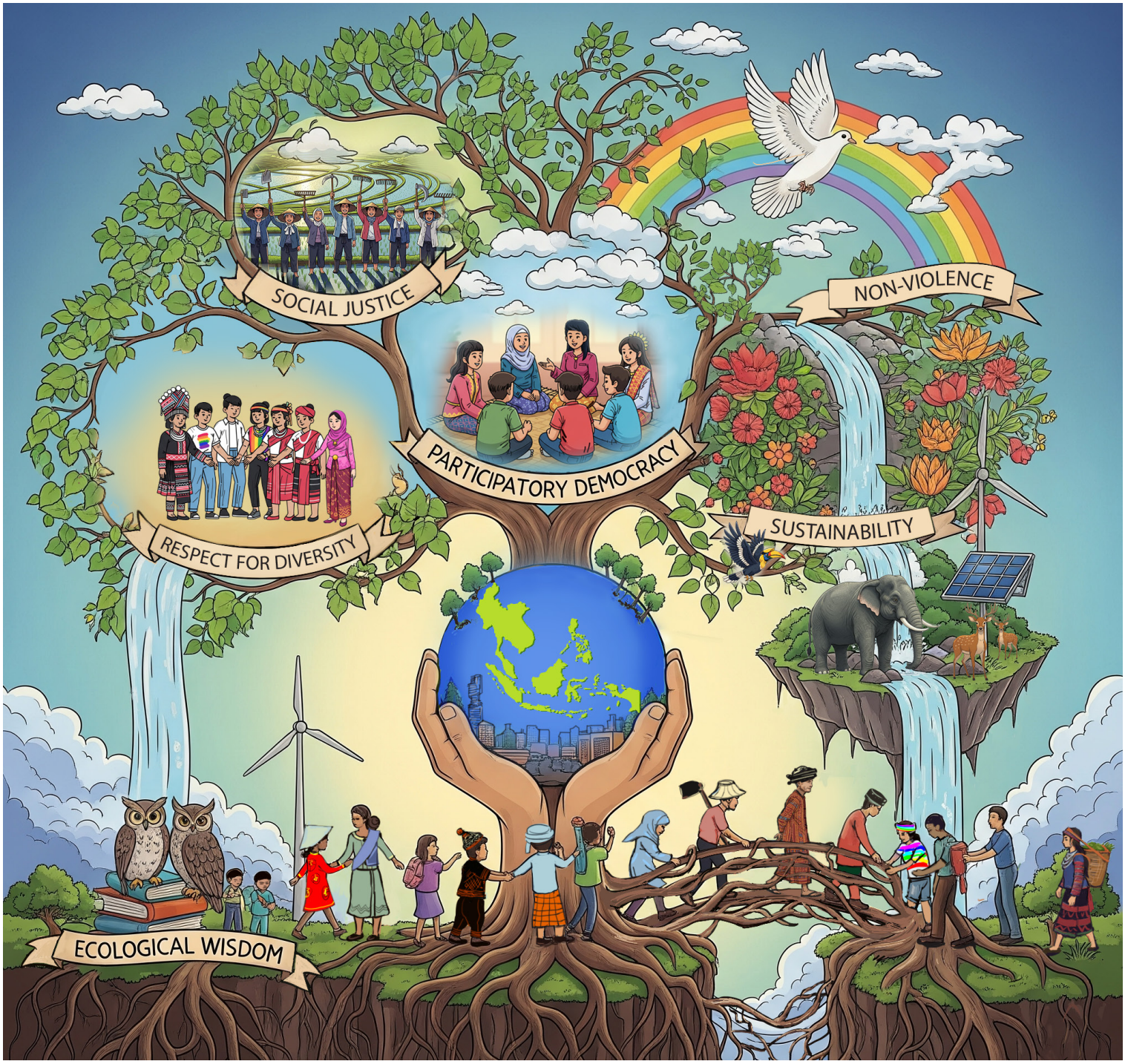

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Content

Introduction

November 2024 marked the 29th climate change international negotiation "Conference of Parties" (COP29), held at Baku, Azerbaijan. The agenda of the meeting was similar to that in the previous years: lobbying for wealthy counties to help poorer countries who will be impacted most by warming temperatures and sea level rise. In this event, among many other actors, there were about 200 indigenous people who participated and pushed for indigenous knowledge to be incorporated in climate change studies and policy (Perez, 2025). The idea echoed from the COP26 held at Glasgow in 2021 "You can't solve the climate crisis without including indigenous peoples and without protecting their territories", said the Brazilian activist Luiz Eloy Terena (Barret, 2021). The question is, what and how can indigenous people address the issue of climate change. More specifically, while indigenous people and their knowledges are often rendered backward, damaged and in need of help, is there anything that can be learned from them and could their knowledges and practices fill the gap in the blind spot of modern science and the broader quest for sustainability?

This paper attempts to tackle these questions of the development-environment nexus from the perspective of Southeast Asian Ecological Wisdom. Section 2: *Indigeneity, colonization, modernization and environmental knowledge* begins by laying a theoretical foundation to the relationship between indigeneity and modernization whereby the construction of indigeneity have automatically rendered colonized people as helpless, vulnerable and in need of support from those of higher socioeconomic status. Section 3: *Traditional knowledge and Ecological wisdom* provides a more in-depth understanding of traditional knowledge and ecological wisdom, both of which are experience-based resources for making morally and ecologically responsible actions for society. Section 4: *Ecological wisdom as part and parcel of way of life* shows that Southeast Asia has always been a laboratory of change for self-determination, reclaiming rights and rethinking futures. It is a place where ecological wisdom intertwined with livelihood. Section 5: *Ecological wisdom as resistance* argues that Southeast Asia, its people and culture have been challenged by modernity, capitalism and state territorialization, but at the same time, they have been used for countering injustice and opening up spaces for new political movements and participatory governance. This has broader implications of inclusivity, justice and sovereignty of indigenous people. Lastly, Section 7: conclusion summarizes ideas and arguments of the paper.

Indigeneity, Colonization, Modernization and Environmental Knowledge

Currently, there are about 467 million indigenous people in the world (World Bank, 2023). Indigenous people, according to Weaver (2022), is defined as *societies, tribes, or nations of people descended from the original inhabitants of the land…who have inherent rights of sovereignty.* From a critical indigenous studies' perspective, indigenous people and their cultures have been invisibilized and marginalized through colonization and centralization of government that continue to exploit land, extract resources, enslave people until the present day. Majority of them are systematically marginalized and are living at the periphery of an increasingly globalized world. How they have endured environmental, social, economic and political pressures have not gone unnoticed and must not be ignored.

The process of colonization created a dichotomy between the indigenous people and the colonizers – the Anglo-Europeans and the non-indigenous elites within the same country – by making sure the former is always inferior in terms of race, culture and development path compared to the latter. To progress toward modernity and economic development, hence climbing the ladder of development ranking, requires leaving whatever is considered local and traditional. In turn, the indigenous worldviews and practices, since rendered uncivilized, must be altered, be incorporated to, or be replaced by, that of the more powerful groups. What used to be normal and thrive at the centers became abnormal and was displaced to the margins to be disciplined. The construction and maintenance of indigeneity goes hand in hand with the construction of other binary opposition like urban-rural, lowland-highland, and the civilized city-the savage forest (Forsyth & Walker, 2008). This pattern is repeated in all continents and throughout histories.

The formalization of economic centers and grand infrastructure have created what Ellen (2007) call 'dual societies' of capital-intensive regions on one hand, and underdeveloped regions on the other. It is in the latter societies where the capitalist and neoliberal economic system, with the aid from state governments and international institutions, extract resources, devalue humanity and environments and pour pollution back to the ancestral land while the former societies accrue capital gains (Ruckstuhl et al., 2022). Yet still, even after successful colonization and post-colonial periods, together with education and religious conversion, agricultural intensification and globalization, basic needs of water, electricity, education and healthcare services have not been adequate for those who were made a minority and have lost their homeland and local economy. In addition to erosion of indigenous knowledge, cultural and language assimilation have rendered them even more invisible in their own ancestral land; homelands that traditions are no longer lived (Ellen, 2007).

Economic and environmental transformations in Southeast Asia, according to Hirsch (Hirsch, 2017), are the result of colonization and political economy. Weak environmental laws allow forests, land, underground coastlines and sea to be easily extracted, while these resources are replaced by dams, ports, inland fishery, monocrop plantation like maize, cassava, rubber, and palm oil. At the same time, the globally induced problem of climate change is affecting Southeast Asia in more extreme ways, as detailed in the 6th IPCC report (IPCC, 2023). The already humid region, especially in the large cities, will face a temperature increase of up to 2 degrees Celsius, meaning an increase in number of hot days and warm nights, heat-related mortality, drought and hence water scarcity. On the other extreme, it is expected that the region will experience more intense rainfall, hence flood risks will become more frequent and more severe, and so too for tropical storms (IPCC, 2023). Southeast Asia, like other regions, has become an exemplar of Anthropocene patches where contested issues of nature-culture, local-global, urban-rural, colonial pasts and-future development crosscut.

Overall, it is the uncertainties of the cross-scale socio-environmental changes that differently affects local communities whose vulnerable lives are made more uncertain in multiple dimensions. Here, there are two implications. First, the term 'indigenous' is already overgeneralizing because not everyone is equally affected or have the same capacity to respond. There are complex intersectionalities of class, gender, race and so on that may led to wider socioeconomic gaps among the indigenous population (Weaver, 2022). Those with the least capacity become even more marginalized or migrated to the city while those who are caught onto the capitalist development train continue to struggle at the bottom of the non-indigenous society.

Second, while it is easy to assume that under the Western idea of development, peoples of the Global South are rendered backward, already damaged and lack any means to cope, what is more troubling, argues Weaver (2022), is that indigenous individuals and collectives were rarely defined to be inherently resilient through a view that reduces local people, cultures and knowledges as static and bounded. Yes, certain indigenous communities are more vulnerable and endangered to anthropogenic climate change, but many communities have had experiences resisting, persevering and thriving against other socio-environmental problems that were derived from the same symptoms: growth, exploitation and reductionist view of natures and cultures (Strauss, 2012). A more holistic approach to understanding resilience is reading cultures and knowledges as having their own rules and logic, and always learning, transforming and sharing across communities, spaces and times (Crate & Nuttall, 2016). All over the world, indigenous groups have worked hard to challenge state policies for recognition of cultural right, community right, the right to speak native languages and bilingual education (Ruckstuhl et al., 2022). It is here in this paper that recognizes storytelling as a

tool for recovering the lost agency and autonomy of resilience, and an attempt to connect "the broad scale as well as local ecosystem changes that are currently being experienced around the globe with stories of real people in specific places engaging with and adapting to these changes" (Strauss, 2012, p. 376).

As argued in James Scott (2009), Southeast Asia is thought as a site of contradictions between uneven development, a shared vision of environmental protection, political resistance and cultural critique. Southeast Asia, as with other significant regions, can become a laboratory of change for reclaiming values, knowledge, practices, rights and resilience (Hornidge & Antweiler, 2012). This self-determination of people, their knowledge and land, means rethinking development policy and rethinking the ethics of living with the changing world. Perhaps there is more than one future, an alternative future where they progress forward while retaining their ancestor's way of life.

Traditional Knowledge and Ecological Wisdom

Becoming resilient requires understanding the dynamics of knowledge, something which is imbued tacitly in indigenous livelihoods. Afterall, knowledge is relational; contextually, spatially and temporally specific. Thornton and Bhagwat (2021) defined traditional indigenous knowledge as *knowledge generated by Indigenous Peoples about their surroundings, including relations with other beings, human and other- than-human, which is adapted and transmitted from generation to generation.* The purpose of traditional knowledge is for making sense of the world in their own context and guide people in reaching a greater purpose of sustainability and well-being. Knowledge is relational and dynamic. It is always be made relevant despite changing times and contexts. In the case of responding to challenges and obstacles, it is knowledge and wisdom that allows people to act accordingly to prevent failure or at least to reduce uncertainties that come in different shapes and forms, rather than to have a complete control over it. In other words, knowledge is used for containing risks while maintaining diversity of choices to act (Thornton & Bhagwat, 2021). Importantly, knowledge is partial and evolving. To see that traditional knowledge can be readily deployed off the shelf when struck by a catastrophe is false, argues Ellen (2007). Rather than 'managing' with pre-planned sets of strategies, Ellen suggests that it is 'coping' which best describe the use of local knowledge: *ad hoc*, opportunistic, spontaneous, intuitive, anticipatory, and tactical rather than strategic. Hence, the liveliness of knowledge lies at the improvisation process. In addition, knowledge grows and blends, between official/global knowledges, scientific knowledge, authoritative knowledge and local knowledge. When knowledges meet, they become hybridized, overriden, and being dismissed.

How is traditional environmental knowledge related to ecological wisdom? Both are considered sets of theoretical and practical skills for inhabiting in harmony with the Earth. They share similar topics such as ecosystem services, sustainability, and cultural capital (Manningtyas & Furuya, 2022). While the former is an experiential place-based knowledge transcended and constituted in relationships between human, other beings, supernatural beings and objects (Thornton & Bhagwat, 2021), it is argued that the later builds on to serves as a function of that knowledge where it is used to *"make ethical judgement and take circumspect actions in particular circumstances of ecological practice"* (Xiang, 2019). In other words, traditional environmental knowledge is the knowledge foundation while ecological wisdom is the know-how, for making morally and ecologically responsible actions for a certain situation (Manningtyas & Furuya, 2022).

Ecological wisdom is coupling of action based on experience and knowledge about surrounding ecology and society, which guides the current action to help enhance the ecological and social health, and for planning and design to be in

inspired and in harmony with nature (Young, 2019, p. 6). Through learning, deciding, acting within a certain context, and reflecting upon its outcome, then accrues a set of experience for choosing the right thing for society and ecology, amidst wickedness, uncertainty and disruptions. The aim of ecological wisdom is not to control, subordinate nature, or put human as opposite to nature, but rather to be part of engagement, learning and growing with the ecology of which humans are dependent on, and respect (Xiang, 2019, p. 19). Put simply, ecological wisdom emphasizes reciprocity and mutuality. As an approach, this knowledge-action perspective is open and boundless; it recognizes "transgenerational, transcultural, transphilosophical, and transdisciplinary" (Xiang, 2019), and is open to integration with other observational, statistical, modeling and other scientific methods for understanding socio-ecological systems. Ecological wisdom, as an applied, actionable science, puts forward an ethical improvisation of scientific, emotional and spiritual values for contributing goodness to the socio-ecology and hence to sustainable development (Xiang, 2019).

The root of ecological wisdom emerged from both Western and Eastern philosophies. Notable figures included Socrates, Plato, and Aristotle Patrick Geddes, Aldo Leopold, Rachael Carson, Arne Naess, Ian McHarg, Laozi, Li Bing, Qian Xuesen, and Liang Sicheng (Yang et al., 2019). Norwegian ecologist Arne Naess's "ecosophy" emphasizes that humans are part of the natural world and that their obligation is to respect and take care of the Earth's well-being. Chinese philosopher Zhengrong She also came up with the term ecological wisdom as a transition away from anthropocentric industrial civilization to the broader ecological civilization. Chinese American geographer Wei Ning Xiang coined the term "ecophronesis" to connote the sense of practical skillsets with moral improvisation useful for making the right choices in an ecological practice. Details of the idea posited by these scholars are summarized in Yang and Young (2019).

In Southeast Asia, different terms are used interchangeably due to linguistics, for example, ecological wisdom, local wisdom, traditional knowledge. Despite differences in their roots and historical timeline, their common themes include respect for nature, interrelatedness and holism between human and nature, practicality and actionability of wisdom, and sustained relevance of their theory and practice (Yang & Young, 2019). In the next section, different case studies from Indonesia, Thailand, Vietnam are used to illustrate the practicality of ecological wisdom in answering modern climate and environmental crises.

Ecological Wisdom as Part and Parcel of Way of Life

Ecological wisdom performs a crucial part of how ones live their lives. Examples below from Indonesia, Thailand and Vietnam exemplify crucial roles of ecological wisdom in structuring people's way of thinking, designing the physical arrangement of settlement, and in resource conservation. In turn, socioenvironmental changes are also threatening the very source of knowledge and wisdom, testing their ability to cope with changes.

Making sense of the world

In the Javanese way of life of Cetho village, humans and their environment are inseparable. Here, Javanese ecological wisdom of *Memayu Hayuning Bawana* means to strive for the salvation of the world and to keep the world and all its contents in order to remain preserved and harmonic (Ali Ikhsan et al., 2017). A coupled system is crucial in keeping harmony: the space culture and the spiritual culture. In the space culture, topography and ecological wisdom inform spatial arrangement of housing settlement, and water management system needed for agriculture. This non-written code dictates the choice of building material and orientation, as well as community consensus on resource management. On the other hand, the spiritual culture is formed from human relationship with deities and spirits through performing rituals and customs such as the Mondosiyo and Dawuhan rituals. Both sets of rituals perform similar function: to regenerate orderliness of cosmos and harmony of the Cetho village life. Villagers would worship and express gratitude for social harmony and availability of resources provided by their spirits.

The balance between space and spiritual cultures became the foundation of *Memayu Hayuning Bawana* ecological wisdom, which is formed in villagers' worldview and percolates out to their behaviour and customs, to the physical arrangement and cultural meanings of their settlement. Ultimately, ecological wisdom colors the life of Cetho people and leads to the desire to maintain harmony of living with their environment and with their spirits (Ali Ikhsan et al., 2017).

Myths and oral history also play a crucial role in biodiversity conservation in Bojong Salam and Sukaresmi Villages, of West Bandung District, West Java (Permana et al., 2019). Local people's belief and respect for spirits and ancestors of wild animals prohibited animals from being killed, and have kept wild boar, gibbon, pangolin, leopard, langur and migratory fish from extinction. The taboo against killing certain animals, a form of ecological wisdom, however, was facing challenges in the modern day. As Indonesian villages were experiencing rapid population growth, the pressure to improve quality of life meant that the taboo was no longer strictly applied. Permana et al. (2019) reported that a pangolin

was traded for Rp 250,000, showing the respect for spirits is slowly lost to short-term economic interests. Other human activities have also decreased the size of natural habitat for these animals: swidden farming[1], conversion of forestland to settlement and farmlands, and construction of electricity infrastructure development and road. As the boundaries between wilderness and village become closer, wild animals prey on farm produce and farm animals, while expansion of settlements and infrastructures disturb animal dwelling grounds. As both the environment and the people are becoming vulnerable, the ecological wisdom that once held them together becomes even more fragile (Permana et al., 2019).

Adapting to the changing nature

The transfusion of ecological wisdom across individuals, collective and surroundings is also common in other parts of Southeast Asia. The following examples illustrate that knowledge helps to maintain choices and flexibility amidst uncertainties and changes.

The case of wild honey harvest at Khuan So community, Songkhla province, southern Thailand, is not anybody's job; it requires experiences and wisdom, which stemmed from close relationship between humans, honeybees, and the forest (Bendem-Ahlee et al., 2015). Using a traditional technique of about a century-old, local people made a man-made bee nest out of wood to attract bees to stay and collect honey from it. One bottle of honey (750 m) sells for 500-700 baht, with minimum of 10,000 baht of income per year. This shows the importance of the forest and bees for income and local economy for the southern Thai villagers.

In recent years, honey hunters notice that climatic variabilities and changes where rain comes slightly later than expected. Instead of rain coming in between February and May during the time that melaleuca flowers were blooming, they found that the rain was delayed slightly, causing more intense rain and flood during the summer months (Bendem-Ahlee et al., 2015). The delayed rainstorms and windstorms destroyed nectars and reduced bee migration and hence decrease number of bee hives. To regenerate beehives Khuan So community members formed a bee conservation enterprise in 2012 and decided to replace the wooden beam in the bee nest with a concrete beam to make it more durable with additional benefit of reducing the use of wood, hence a form of forest conservation. Such change showed that a century-long ecological wisdom was dynamic and flexible enough to accommodate both social and ecological changes in a way that strives to boost forest fertility, protecting biodiversity – including honeybees - and maintaining sustainable futures (Bendem-Ahlee et al., 2015).

1 Swidden farming, or shifting cultivation, is a traditional agricultural system in Southeast Asia. It involves clearing forest patches by cutting and burning, planting crops for a few years, then allowing the land, ecosystem and fertility to regenerate. This type of farming is practiced mostly by indigenous cultures, who is now under the pressure of state's land policy and modern agriculture.

Figure 1. Flower of Melaleuca cajuputi tree blooming around February and May
Source: https://www.nparks.gov.sg/florafaunaweb/flora/3/0/3019

Moving to central Thailand, clam fishers from Bangkhunsai subdistrict, Petchaburi province, have demonstrated sustainable fishing through their local wisdom (Kongprasertamorn, 2007). By banning any commercial fishing projects in the area, replacing a destructive clam dredge with a more sustainable a wooden sled, and developing clam preservation methods such as salting and sun drying, they were able to protect shellfish biodiversity in different seasons and hence maintaining food security.

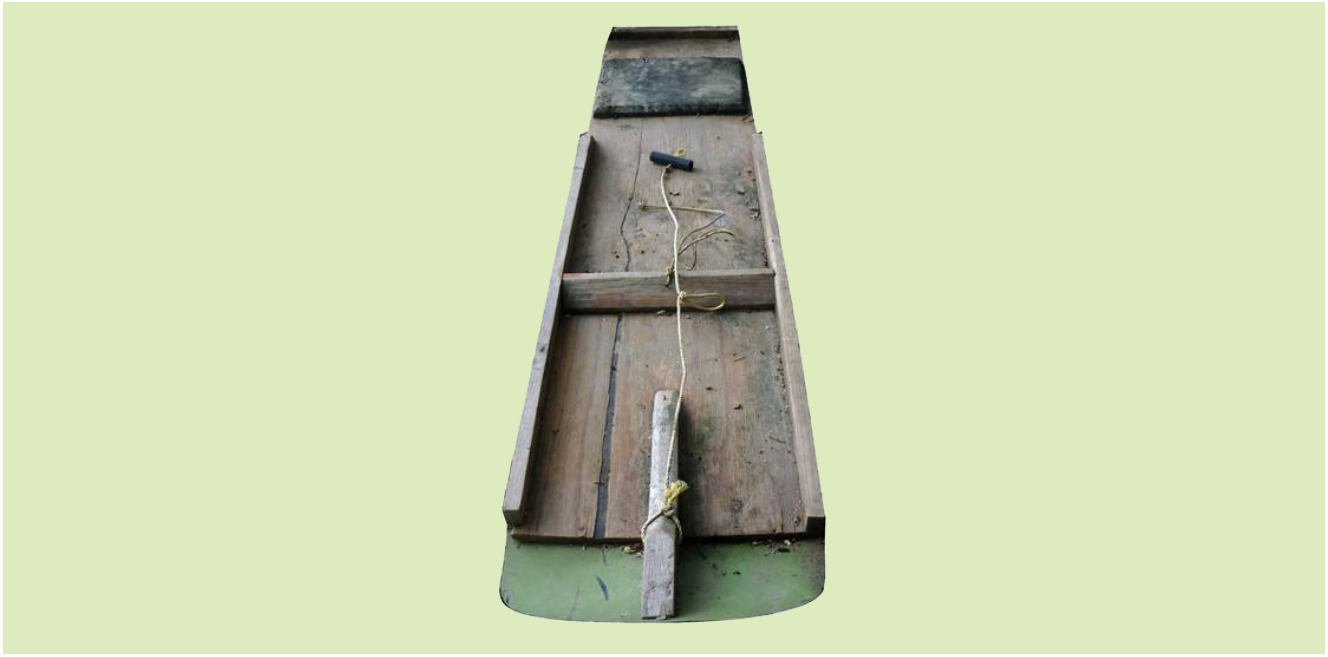

Figure 2. Traditional wooden sled for collecting clams on mud surface. Size about 25 x 60 cm.
Source: https://traditional-objects.sac.or.th/th/equipment-detail.php?ob_id=97

The fisher local wisdom has been integrated into Bangkhunsai's Community Living Plan in different working groups (Kongprasertamorn, 2007). In the health and food security group, they made homemade shampoo and soap from medicinal herbs and revived traditional organic farming technique. In the shellfish collection group and coastal resources conservation group, they set up a learning center to transfer fishing knowledge to younger generation across villages and to tourists. This formed larger inter-community networks with eco-tourism groups, food handlers group, and boat handlers group to boost local economy from eco-tourism and selling fish products (Kongprasertamorn, 2007). This example shows that ecological wisdom helps to add ethical and moral values at the core of local resources and development plan through networking.

In the case of communities in the regularly flooded Long Xuyen Quadrangle and the Plain of Reeds the Vietnamese Mekong delta, Liao (2019) praise their ecological wisdom of living and adjusting with flood rhythms, make them self-reliant and flood resilient. As flood water brings sediment and nutrient, farmers developed 'floating rice' variety so that its tall stalks survive during flood period. In addition villagers made temporary semi-dykes (also known as August dyke) to prevent flood water entering the rice fields until harvest time in July. After that, the dyke would be toppled to allow water into the field. As the rainy season approaches, temporary monkey bridges and footbridges – adjustable to the height of changing flood levels – were constructed to provide alternative, flexible mobility and transport modes. The Vietnamese ecological wisdom is about fluidity: constantly switching between farming and fishing and continually diversifying and adjusting physical infrastructures. These adaptation strategies are what allowed them to be resilient.

But such knowledge and wisdom faced challenges. The Vietnamese government's flood-control ideology has resulted in a total change in flood infrastructure. Although the government had successfully reduced the naturally flooded area from 12,000-19,000 down to 10,000 km^2 in 2011, this was in expense of replacing the semi-dykes with tens of thousands permanent dykes, sluice gates and pumping stations (Liao, 2019). By regulating streams, channelizing and modernizing riverbanks as attempts to prevent and control flood water, the government was also changing the character of the floodwater, the very source of adaptation knowledge itself. As Liao (2019) argues, a paradigm shift from controlling flood to living with flood means not to exclude flood, but to retain the synergies between human and water, recognize the multiple pros and cons of flood, accommodate flood as part of city life, and reveal the flood dynamics to the public. Since knowledge to live with flood only thrives from living with it in the first place, rescuing ecological wisdom means allowing people to participate in designing their amphibious city and their flood water management system.

Ecological Wisdom as Resistance

Over the past two centuries, and more intensely in the last few decades, natural resources are exploited in the name of "modernity" and "sustainability" (Hirsch, 2017; Miller et al., 2020). Indigenous people, too, are exploited as globalization, capitalism, cultural assimilation and state territorialization redefine their lives in many ways. Example below explore how natural environment and its people, which are the source of knowledge and the improvisors of knowledge, respectively, cope and resist against development projects. They show how knowledge and wisdom serve as approach for innovating new techniques to cope against dominant power, for decentering anthropocentric thinking and for reexamining justice and fairness in ideology and structure of a society.

Resilience as revolution

While many parts of Southeast Asia continue to export high quality agricultural goods to the world, yet, in Ellen (2007)'s opinion, the Green Revolution itself which gave rise to agricultural boost over the past few decades, has been a modern invention that negatively affected local knowledge of the region. There are trade-offs. In came high yield crop varieties, modern equipment, fertilizer and financial institutions for poor farmers, while traditional farming knowledge was labelled backward, and land ownership and gender roles in agriculture was reformed. It is essentially replacing existing knowledge and practices with a foreign one. There were those who gain advantages and those who became disadvantaged. For example, Indonesian rice production was able to keep up with the doubling population from 119 million in 1960s to 210 million in 2000, but with much loss in rice genetic diversity (Ellen, 2007).

With the traditional plant varieties being excluded from joining the global market, and the slow loss of knowledge and agrarian tradition and livelihood, Ellen (2007) show evidence that the Nuaulu people of Indonesia had a collection of about 150 secondary foods of fruits, seeds, shoots and leaves that can be found from their forest, plus methods for preserving food by salting and smoking. Other strategies include increasing crop diversity, shifting crop calendar, breeding tolerant varieties and choosing upon contexts, innovating low-cost irrigation technique, choosing new types or location of food sources, and labour and job diversification (Ellen, 2007).

A similar story from northern Thailand also demonstrates how farmers were capable of fighting back against waves of Green Revolution and seed corporates. Farmers of Nan province learned to diversify native seeds and breed new ones, abandon fertilizers and revert to organic crop and animal raising and combined oral history with weather forecast to plan their crop calendar (Santasombat, 2008). Such movement is not anti-modernization but is being flexible enough to

external socioeconomic and political forces, and unpredictable weather conditions. From simple farmers they become the forest conservationist and plant genetic manager. By setting up their own initiatives and community enterprise without government support, this re-learning and re-inventing identity and empowerment made them 'flexible peasants' (Santasombat, 2008), defying the simplistic view that they are backward and unadaptable.

Such movement in Nan province could not happen without the precursory rise of 'activist farmers' and 'activist monks' earlier in 1990s (Darlington, 2003). Mass deforestation through government-sponsored cash crop promotion and chemical fertilizers was explained from Buddhist perspective as greed for materialism which led to destruction of ecology and poverty. By combining ecological wisdom, animism and Buddhist teachings, a ceremony of 'tree ordination' was created. This was a symbolic protest against capitalism and corrupted officers, where a monk's yellow robe is tied at a tree trunk, making that tree an ordained monk. The tree is then enchanted with a curse. Cutting a tree equals to killing a monk, and the killer would be punished by spirits. This means trees are no longer unmanaged or government property but become village property held by religious belief and wisdom in the form of community forest. Nowadays in many parts of Thailand, the idea of tree ordination expanded to river ordination as religious tactics for ecological conservation amidst climate change (Darlington, 2014). Nan farmers learned that empowerment and ownership provided seeds for resilience and flexibility for tackling everyday politics and structural problems.

The importance of agricultural wisdom and genetic diversity, which goes hand in hand with land right and food security, is reflected during the Covid-19 crisis. While people in the city heavily rely on home cooking and ordering food delivery, Thailand's Indigenous Peoples' Association launched a campaign "Rice for Fish" which allowed indigenous Moken, Moklen, and Urak Lawoi fishermen from Rawai village of Phuket to trade nearly 2 tonnes of dried fish, rice and dried food with Karen communities of northern Thailand (AIPP, 2020). "Rice for Fish" serves a powerful counter-narrative to the portrayal of indigenous people as backward and destroyers of forests, and instead highlighting their self-sufficiency and environmental guardians (Chia & Lim, 2020). The program ultimately aimed to redefine "Thainess" as inclusive of diverse indigenous identities.

Fig 3. Tree ordination in Forest and river life-prolonging ceremony in Mae On district, Chiang Mai. February 2024
Source: Chaya Vaddhanaphuti

Justice in social structure and policymaking

While examples above show that ecological wisdom have been important for resilience against socioeconomic and climate change, but much less has been said about how indigenous people and climate change have been recognized at constitutional level in the first place. April 2024 saw the draft the ASEAN Declaration on Environmental Rights with objectives to link environmental protection with human rights in the times of worsening environmental crises coupled development/environmental projects that dispossess and violate human rights, and the shrinking civic space of environmental defenders. However, indigenous people of Southeast Asian countries were not included in the Working Group, and the term "indigenous people" were not used but diluted to the term "ethnic communities" instead (Tran & Dayoon, 2024). Similarly in Thailand, as of February 2025, the Thai parliament have approved the "Ethnic Way of Life" bill without including the term "indigenous people" (Lawattanatrakul, 2025). This problematic term, if included, would recognize that land lived by indigenous people was taken over by and through a constitution of modern Thai state, something which some members of parliament disagreed. Some even recognize indigenous people in Thailand as a national security threat that needed to be tightly regulated.

Earlier in 2024, Thailand's Department of Climate Change and Environment (DCCE) drafted the country's first climate legislation called the Climate Change Act[2]. The content of the Act included Thailand's Emission Trading System (ETS), carbon tax and credit, climate change fund, and various strategies on adaptation. In the author's opinion who participated in a public hearing in August 2024 in Chiang Mai, Thailand, most chapters were heavily skewed towards mitigation, centralizing carbon credit as the main solution, while adaptation strategies have been very much sectorial based without real emphasis on crosscutting local development goals. What's more interesting from this event was that many representatives from highland indigenous communities opposed the draft version of this Act, doubting the role of carbon credit. The Act also did not consider indigenous people as part of committee board. Similar responses were experienced in other public hearing across the country.

By setting a target for carbon neutrality in 2050, the Thai government will encourage even more carbon credit schemes in forest and mangrove areas across the country. It would mean that an everyday activity of forest dwelling and protection could generate a huge amount of income of over a million Baht per village, indeed a great economic incentive for investing back in community development (Mae Fah Luang Foundation, 2022). But might this reduce forest protectors to mere

2 Available at https://www.parliament.go.th/section77/manage/files/file_20240322151725_1_371.pdf

labour under a carbon mitigation project run by the state, experts and capitalists at the capitol? What is the worth of forest guardians and their ecological wisdom in a climate change project? Where does the sovereignty lie and how to ensure empowerment of local people? There is a long road ahead before making any conclusion, although examples in Indonesia (Frewer, 2021), Southwest China (He & Wang, 2023) and Cambodia (Miles, 2021) have shown mixed result of carbon mitigation projects financially, socially and environmentally.

The three stories above show that "indigenous" people of Thailand, and perhaps too of other Southeast Asian countries, have not been legally recognized due to long standing systematic injustice. And it seems the current political climate is unlikely to change easily. In a broader picture, even without the issue climate change, current Southeast Asian indigenous environmental defenders are already under threat and violence from resource extraction (Jeffries & Jefferson, 2022). Lesson learned from scholar/activist Kyle Whyte, a Native American of Patowatomi Nation, is that throughout histories, the four core values of indigenous kin relationships – consent, trust, transparency, and reciprocity – have already been exploited and broken by colonialism, capitalism under the name of development projects (Whyte, 2020). The damaged kin values will take much longer time to repair, perhaps not recovering soon enough to face the current climate urgency. But rushing to fix it, warns Whyte, are likely to reproduce colonial ideology that justifies even more technological, knowledge, and financial power over Native and indigenous people once again.

Breaking silences

Continuing on the theme of ecological wisdom versus modernity, See et al. (2024) took a decolonial approach to critically analyze the haunting traces of physical, systemic and structural injustices and violence from colonial times on the role of traditional knowledge in climate change responses. The authors ask how institutions have silenced, suppressed, or rendered local wisdom and practices invisible, in three case studies: Nawi of Fiji, Thai Bihn of Vietnam, and Basey of the Philippines. In Nawi, See et al. (2024) explained that the national education system did not recognize or support local wisdom and knowledge as part of climate adaptation strategies; they favoured the Eurocentric education and worldview. Moreover, capitalist development and market-based solution, which offered modern, climate resilient houses against storm and flood to Nawi villagers in exchange of resource extraction, have led not only to destruction of mangrove and topsoil but also destruction of ancestral land of high cultural and spiritual significance.

In Thai Binh, the dominance of Western science was clear in managing storm surge and saltwater intrusion (See et al., 2024). As similarly argued in Liao (2019) above, traditional observation and wisdom in controlling sluice gate was replaced with scientific equipment protocol for water level observation. Similarly, in Basey, the ability to foretell Typhoon Haiyan and prepared protective shelter of Mamanwas Indigenous peoples was shunned by other non-indigenous groups and the government. In both contexts, climate adaptation only works by becoming modern and leaving behind the traditional knowledge.

In short, See et al. (2024) argue that the Eurocentric perspective of climate change adaptation have 1) privileged mainstream and scientific ways of knowing in the formal education, 2) projected linear and progressivist timelines, and 3) narrowly framed scientific toolkits and market-based mechanisms as the main solution to climate change. These three assumptions have rendered traditional knowledge and practices backward and unsuitable to fixing current global environmental problems. Essentially, these are processes of silencing people and their wisdom.

In the three climate adaptation case studies, See et al. (2024) also showed how indigenous communities have come up with strategies emerged to counter the production of silences placed upon them. In the Nawi case, they have integrated wisdoms, stories, chants, myths, games, and performing arts into school curriculum. Similarly, in Basey, 'Community and Family Development Module for Indigenous Peoples' was set up, targeting young generation to learn more about environmental knowledge and human rights. In Thai Binh, people reperformed and retold how observation and sense of touches of surrounding natural elements help scientists to observe changes of soil and water quality and hence farmers could improve them accordingly. All these activities were aimed at supporting local wisdom and decolonizing Eurocentrism, technocentrism and capitalism.

Sovereignties

For people's knowledge and wisdom to play a greater role in contributing to the common goods and coping with environmental crises, it requires an ideological and structural transformation: from anthropocentric, utilitarian technocratic worldview to reciprocal ontology where rights and recognition of sovereignty and knowledge serve as a fundamental basis. Gómez-Baggethun (2022) argues with an interesting point that if knowledge and wisdom is narrowly framed merely as an instrumental value i.e. only valuing what is quantifiable and observable, then, we are risking losing the recognition that they are central part in ways of life. In other words, rather than collecting cultural artefacts and display them in a museum, developing conditions for a living museum to continue to exist should be the way forward.

Recalling the argument by the Brazilian activist Luiz Eloy Terena about protecting indigenous territories as a key for solving climate change problem at the beginning of the paper? Ultimately, he is talking about sovereignty. Sovereignty is more than the right to live on land; it is recognizing and respecting the right of knowledge holders whose knowledges are rooted to the land, atmosphere, rivers, forests, plants and animals. Sovereignty means respecting and rebalancing the hierarchy of knowledge and power in solving global environmental change.

As mentioned above, the displacement of traditional knowledge with modern science begs the following questions: how to unlearn the currently climate knowledge that have been standardized? While the current climate knowledge has been labelled a reductionist knowledge, one that reduces all complexities into the language of carbon and temperature (Borie et al., 2021; Hulme, 2011), one thing to be sure is that traditional ecological knowledge and ecological wisdom teach that humans are only part of much broader functioning of the world. By decentering humans and looking from a planetary perspective (Clark & Szerszynski, 2021), the land, ocean, atmosphere, forest and all living things are not something waiting to be owned by anyone or understood from a narrowly framed perspective of or for humans. As we know, the Southeast Asian monsoon and Mekong River respect no national borders (Bremner et al., 2022). They have their own rules and have been, and will, continue to play central role in energizing lives and driving the functioning of the world, with and without humans.

Such local knowledges, cosmologies and wisdoms have been appreciated, although at some points in histories they have been repressed or stolen. As seen in the colonial history of Australia and New Zealand, land and atmosphere have been made empty, detached from their roots and reduced to mere boxes. Being made ownerless, the *terra nullius* and *aer nullius* (Wright & Tofa, 2021) were then conquered by someone outside of our home sovereignty and given new meanings.

In response, as a growing global movement in the recent years, the concept of legal personhood and rights of nature aims at granting legal recognition of natural being their inherent right to exist independently of human and providing legal framework by holding perpetrators accountable for damage to natural beings. These can be seen in the forms of New Zealand's Te Awa Tupua (Whanganui River) Act, Brazil's waves at the mouth of the Doce River Bill, as well as the new proposal to grant personhood to New Zealand's Mount Taranaki. By retrieving and handing over authority to whom it should belong, we are becoming part of the much larger sovereignties we could ever imagine and experience.

Hence, there is a need to reclaim rights and recognition of Southeast Asian communities and their knowledges and wisdom that are rooted to the land, atmosphere and ocean they inhabit (Businge & Keim, 2009). As with the powerful concept of *Zomia*, the vast upland region of mainland Southeast Asia that resisted state incorporation and control (Scott, 2009), other scholars have also proposed decolonizing the history of Southeast Asia. Sutan Takdir Alisjahbana (1987) proposed the idea of *Bumantara* or "land in between" to encapsulate the international corridors of trades and migration between Southeast Asia and Indian Oceans, the Pacific, Asia and Australia continents. Similarly, Bustami (2023), proposed rethinking the history of Nusantara Malay Archipelago and proposed "Nusantarazation" as a discourse of decolonization and indigenization to counter the subjugating constructs by reintegrating solutions and practices from local wisdom and indigenous heritage.

Although self-determination of Southeast Asia may not directly lead to granting personhood to rivers and mountains like in other countries, or may not directly help reducing the rising temperature or atmospheric carbon concentration, it might serve as a foundation and an encouragement for the subaltern continental/maritime Southeast Asian dwellers to rescue and rewrite more about their own ecological knowledge and wisdom: what and how do their mountains, oceans, monsoon seasons and forests teach them about living with the changing world as part of the broader project of rethinking Southeast Asian sovereignties.

Conclusion

This paper presents Southeast Asian ecological wisdom in the context of broader environment-development nexus. It begins by asking how indigenous people can address the issue of climate change. The short answer is, yes, they can but not necessary climate per se. Certainly, there is little need for them to directly try to stop global temperature rise and stabilize atmospheric greenhouse gas emission due to their insignificant historical contribution. But can they cope with present and future unequal burden of climate impact? Case studies from Southeast Asian communities have shown how, through waves of colonization and development programmes, ecological knowledge and wisdom guide them to devise innovative strategies to become self-sufficiency during times of crisis, albeit with different degrees of success and failures. Being resilient and flexible remain key ingredients to adapting to climate-environment-development changes that cannot be easily untangled.

Whie the author is still optimistic about the role of ecological wisdom, fostering resilience and flexibility requires thinking deeper about how the issues of indigeneity are framed around climate change, and vice versa. The construction of indigeneity created narrative of indigenous and environmental guardians as inferiority, backward and vulnerable. They need to be regulated and modernized. Yet close examination shows it need not be treated that way. The purpose and functions of their knowledges and wisdom are just different. It is less about complete control of, but about learning and growing with, the changing surroundings. More importantly, it is about ethical responsibility – being respectful to the rights of other beings. Highlighted here in this paper are how knowledge holders and environmental defenders continue to face ideological and structural impediment. Yet their knowledge and wisdom become political tools in rethinking indigeneity, climate change and development.

To talk about indigenous people and their knowledge is to talk beyond indigenous issues. How and why an indigenous people are included or excluded in the governance of these topics is a crucial question that should be reflected upon by the dominant non-indigenous counterparts. As Todd (2015) argue, decolonization requires that we change not only who is speaking, but also the composition and diversity of those who represent the topic of discussion. It then requires restructuring policies that have led to marginalization of indigeneity in the first place, so that indigenous people do not speak from the position of a minority in a society (Parreñas, 2020). Additionally, Nor Diana et al. (2022) suggest that joining trainings and adopting advanced technologies such as environmental sensing and mapping are appropriate climate adaptation strategies for Southeast Asian dwellers. This will open up different opportunities and platforms for knowledge holders to speak across different groups. This liberation allow them

to become more than being indigenous, but as intellectuals and collaborators in any topics about life. Whether in the subject of ethnicity, environment, education, well-being, religious practices or food security, their knowledge and wisdom serve the purpose of rekindling, learning and teaching, and countering the silencing process. In this way they can retain ancestors' ways of life while being flexible to stories they tell, in order to live with uncertain futures.

To talk about climate change, argues Wright and Tofa (2021), is to also talk beyond climate – to talk about it in relation to development and justice and. Climate is not external to culture, but a part and parcel of culture and livelihood. Yet, it is development paths that have led to changing climate, environment and society – for better and for worse – that climate we experience today feels out of place. Still, there are frictions and contradictions in development policies. As argued in See et al. (2024) and in Permana et al. (2019), conservation efforts failed because it only focused on conserving wildlife but there were no policy synergies that aimed at improving rural population's quality of life amidst unequal development. Development policy needs to strike balance of society, economy, climate and environment, and in turn, such policy also needs to be just and intends to reduce social inequality and marginalization. Improving people's life through just development hence maintaining biocultural diversity, argues Santasombat (2008), serves to protect the ecological knowledge and wisdom that are rooted to the land, atmosphere and ocean they inhabit. These are, essentially, Southeast Asian sovereignties that need to be recovered.

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