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First on Land, Last in Plan: The Orang Asli as Key Players in Forest Rehabilitation, Management and Conservation Practises

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There are 869 Orang Asli communities within Peninsular Malaysia, with the state of Pahang accommodating the highest number of Orang Asli. Despite formal acknowledgement of the government's responsibility to the Orang Asli (Aboriginal Peoples Act, 1954), the Orang Asli have always been considered relatively unimportant players within the Malaysian political sphere, often marginalised and exploited for their ancestral land. Success stories in Asia and a variety of literature have revealed that community based forestry and management practises have been a proven means to rehabilitate and conserve forests sustainably. Through interviews conducted with Orang Asli in the Pekan Forest Reserve, (neighbouring Bukit Leelau Estate), this paper uses this case study coupled with the rehabilitation works with the same Orang Asli community conducted by the Global Environment Centre (GEC) to reveal the true impacts community based forestry can have. Only when the Orang Asli are recognised as key players, can the combined efforts from both the state authority and the Orang Asli produce an inclusive and effective framework towards better rehabilitation, management and conservation practises.

The review shows that at the same time an interview with a few residents of the Orang Asli settlement adjoining a plantation indicates that the residents benefit from the plantation: some having employment in the plantation and the community benefits from the plantations' infrastructure for access. The interview also reveal that the peatlands was a result of carelessness by fishermen who use fires on poles to attract fish during fishing at night.

Keywords: *Orang Asli, aborigines, peatland, peat fire, peat rehabilitation.*

The South-East Pahang Peat Swamp Forest (SEPPSF) remains the largest block of undisturbed mixed peat swamp forests in Peninsular Malaysia to date (Wetlands International, 2010). The SEPPSF covers 60 per cent of all remaining peat swamp forests in Peninsular Malaysia, 40 per cent of which is spanned across four forest reserves (Kamal & Lim, 2019). The Pekan Forest Reserve is the largest peatland area within the SEPPSF spanning 59 097 hectares, followed by the Nenasi Forest Reserve (20 546 ha) and the Resak and Kedondong Forest Reserves (9 681 ha and 1 818 ha respectively) (Wetlands International, 2010). Other peatland areas in Pahang include the Pahang River North Peatland as well as smaller peat areas in West Pahang. The Bebar and Merchong Rivers and

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its tributaries serve as important sources towards the livelihoods of local Orang Asli communities within the SEPPSF forest reserves.

Based on data from the Department of Orang Asli Affairs (DOAA) also known as Jabatan Kemajuan Orang Asli (JAKOA), as of 2018 there were about 178 197 Orang Asli inhabitants in Peninsular Malaysia, representing 0.6 per cent of the Malaysian population (SyedHussain *et al.*, 2017; Kamal & Lim, 2019). Of the 869 Orang Asli communities in the Peninsular, around 70 per cent reside in Pahang and Perak, with Pahang hosting the highest number of Orang Asli (67 506; 37.9%). Despite being classified as indigenous minority peoples of Malaysia, the Orang Asli are not a homogenous group but rather can (officially) be classed into three main ethnic groups: Negrito, Senoi and Proto-Malay, which can be further broken down into 18 sub-ethnic groups (*Table 1*) (Nicholas, 2012; SyedHussain *et al.*, 2017; Kamal & Lim, 2019). Each ethnic group has their own language and culture stemming from various historical lineages and consider themselves distinct from each other, further emphasising the heterogeneity amongst the Orang Asli (Nicholas, 2012). Although each group has different ways of life, one common thread among all Orang Asli is that they are

TABLE 1
DISTRIBUTION OF MAJOR ETHNIC GROUPS OF ORANG ASLI BY STATES IN PENINSULAR MALAYSIA
(ALSO INCLUDES SUB-ETHNIC GROUPS AND LANGUAGE USED)

Ethnic group (%)	*Sub-ethnic group*	*Traditional distribution (by states)*	*Language Family*
Senoi (54.9%)	Che Wong	Pahang	Austroasiatic
	Jah Hut	Pahang	
	Mah Meri	Selangor	
	Semai	Perak, Pahang, Selangor	
	Semaq Beri	Pahang, Terengganu	
	Temiar	Perak, Kelantan	
Proto-Malay (42.3%)	Jakun	Pahang, Johor	Austronesia
	(Orang) Kanak	Johor	
	(Orang) Kuala	Johor	
	(Orang) Seletar	Johor	
	Semelai	Pahang, Negeri Sembilan	
	Temuan	Selangor, Negeri Sembilan, Melaka, Johore, Pahang	
Negrito (2.8%)	Bateq	Kelantan, Pahang	Austroasiatic
	Jahai	Perak, Kelantan	
	Kensiu	Kedah	
	Kintak	Kedah	
	Lanoh	Perak, Kelantan	
	Mendriq	Perak, Kelantan, Pahang	

Source: SyedHussain *et al.* (2017), Kamal and Lim (2019)

the descendants of the earliest inhabitants of the Peninsular, retaining much of their identity (Nicholas, 2012).

Among the three main ethnic groups, the Senoi are the largest (54.9%), followed by the Proto-Malays (42.3%) and the Negritos (2.8%). Whilst the distribution of Orang Asli communities vary by state, 49.3 per cent of Proto-Malays, 30.1 per cent of Senoi and 18.5 per cent of Negritos are settled in Pahang (SyedHussain *et al*., 2017). Pahang is the only state where all three ethnic groups are evident, aligning with the aforementioned statement where Pahang has the highest number of settled Orang Asli. The racial composition within Pahang is as follows: 55 per cent are Proto-Malays, 43.6 per cent are Senoi and 1.4 per cent are Negritos (SyedHussain *et al*., 2017).

Threats to the SEPPSF include logging activities, land conversion, fire, spread of invasive species, water pollution and alteration of the hydrological regime. Not only do these threats impose drastic environmental and ecological effects, but sociocultural impacts on local Orang Asli communities as well. To date, land dispossession remains a persistent issue faced by the Orang Asli and is possibly the greatest visible threat to their culture, identity and livelihoods (Nicholas, 2012; Kamal & Lim, 2019). Despite the special legislation of the Aboriginal Peoples Act enacted in 1954 (revised in 1974), the Orang Asli are not guaranteed any rights to their traditional lands (Nicholas, 2012). Therefore, state authority can revoke land status at any given time, leaving Orang Asli communities with no legal recourse. Furthermore, the state authority has no obligations to pay any form of compensation or to relocate communities to an alternative site in the event of such dispossession. While this may only impact Orang Asli communities on 'state land', only 12 per cent of the 869 Orang Asli communities live in areas gazetted as Orang Asli Areas or (Forest) Reserves (Nicholas, 2012). Notwithstanding that Orang Asli Reserves have been and are often degazetted without their knowledge. The uncertainty over the ownership of Orang Asli land can be attributed to government land schemes, private plantations, mining concessions, infrastructure development such as road networks, housing projects, recreation areas and many other projects in the name of 'development'. A notable example of this would be the Temuans in Sepang having to give up their well-established settlements to allow for the development of the Kuala Lumpur International Airport (Nicholas, 2012).

While an in-depth exploration into the means of land-use change is beyond the scope of this paper, the relationship between state authority and the Orang Asli communities is an interesting subject matter to delve into. The Orang Asli have always been relatively insignificant players within the Malaysian political sphere, therefore, the Aboriginal Peoples Act (1954) was considered a milestone in the administration of the Orang Asli, acting as a formal acknowledgement of the government's responsibility to the Orang Asli (Nicholas, 2012). However, the Act was enacted during the peak of the Malayan Emergency (Anti-British National Liberation War; 1948-1960), with its main purpose to benefit the colonial government at the time. As evident today, the Act aimed to provide for the protection, well-being and advancement of the Orang Asli only protects the interest of the government while continually marginalising Orang Asli communities (Kamal & Lim, 2019). In the past, the Orang Asli would normally comply with governmental injunctions and allow their land to be exploited for the various land-use changes by relocating to a different area.

However, due to the scarcity of land in recent years, the Orang Asli have shifted to public channels such as protests, blockading, attracting the media as well as legal action to attract attention to what is happening to their traditional homelands (Kamal & Lim, 2019).

This monocratic relationship between state authority and the Orang Asli will continue to be the main obstacle restricting any community-based natural resource management initiatives - which require combined efforts from both parties. According to the National Forestry Act (1984) aimed to provide for the administration, management and conservation of forests and forestry development in the country, forests are the property of individual states in Malaysia which are to be managed by the state forestry departments (Gill *et al.*, 2009). Therefore, this forest dependent communities, such as the Orang Asli, are revoked of their traditional rights to access, use and manage traditional forested land. Generally, state authority often dismisses the competency and ability of forest dependent societies to manage their forests sustainably (Gill *et al*., 2009). However, for the Orang Asli, forests source their livelihoods and wellbeing, shapes their customs and cultures, defines their identity, constitutes their local environment and acts as a source of income (Kardooni *et al.*, 2014; Hergoualc'h *et al*., 2018). The forests provide important ecosystem services for the Orang Asli who traditionally benefit from its natural riches such as fuelwood, fodder and non-timber forest products as well as construction timber (Alamgir *et al.,* 2018; Hergoualc'h *et al*., 2018). However, centralised control of forested areas enforce strict regulations that restrict the use of forested goods and wildlife (Agrawal & Ostrom, 2008). Thus, one of the direct impacts of forest centralisation is the loss of local control over forest resources and the reduced role local communities have in managing forests (Gill *et al*., 2009).

According to Gill *et al*. (2009), centralisation of forests based on an authoritarian model, such as government-controlled forests administer no guarantee that biodiversity objectives can be met. Additionally, as mentioned by Webb (2008), there is a plethora of literature to support claims that the total centralisation of forests are not a sustainable solution for the majority of forests dependent communities in Asia. Studies have also shown that the overall biological condition of the forests have improved where community forestry programmes have been implemented (Gautam & Shivakoti, 2008). Success stories of integrated community based forest management in Nepal and India have proved that providing long-term access and returning control rights to forest dependent peoples have allowed for the efficient conservation of forest resources. Notwithstanding that it has also proved to be politically feasible and a cost-effective means to reduce poverty among forest dependent communities (Arnold, 2001; Shrestha & Khadka, 2004). Nepal formally recognised local community participation such as community forestry and even co-management of forests with local communities as a national forest management strategy in 1976 (Gautam & Shivakoti, 2008). Considered as one of the most progressive countries in participatory community forestry, Nepal has demonstrated that forests have been and can be well managed by local communities (Kijtewachakul *et al.,* 2008; Nagendra *et al.,* 2008).

Within Southeast Asia, Indonesia and Vietnam are overturning centralised forest policies to return forests back to the local people, however, formal forest policy reformation is still in its early stages in Malaysia (Gill *et al*.,

2009). The forest cover in the SEPPSF has declined by 59 per cent (from 230 600 ha to 95 000 ha) from its original cover across a span of 40 years where deforestation first commenced in the area (UNDP-GED, 2007). Thus, a deeper look into the socioeconomic pressures, weaknesses in existing forest centralisation policies, land scarcity, access and use is required in order to achieve sustainable community-driven forest management (Gill *et al.*, 2009). As stated by Gill *et al.* (2009, p. 136), "Conservation without economic benefit for local communities impedes the conservation process".

In 2005, the United Nations Development Programme - Global Environment Facility (UNDP-GEF, 2005) commissioned a project titled 'Conservation and sustainable use of tropical peat swamp forests and associated wetland ecosystems'. The objective of the project in the SEPPSF was to develop and implement an Integrated Management Plan (IMP) aimed at supporting the implementation of conservation and sustainable use of the SEPPSF from the perspectives of stakeholders (Kamal & Lim, 2019). While the study ended more than 15 years ago, the community partnership aspect in natural resource management was not implemented. Therefore, the argument for the recognition and participation of the Orang Asli in management of protected areas remains relevant in Peninsular Malaysia (Kamal & Lim, 2019).

CASE STUDY: THE ORANG ASLI OF THE PEKAN FOREST RESERVE

The first aspect involved evaluation of the actual views of the Orang Asli.

Interview of Orang Asli

For the purpose of this study, interviews were conducted with Orang Asli from four different villages neighbouring Bukit Leelau Estate, in the SEPPSF in the district of Pekan. Generally, the indigenous communities in the SEPPSF refer to the Jakun – a sub-ethnic group of the Proto-Malays (*Table 1*). Informal interviews and observations were used, which allowed for a more fluid structure, adapting and changing questions depending on the direction of the interview as new information appeared. The interviews were conducted on 3 February, 2021. Verbal consent was also obtained from each interviewee prior to the interview which was carried out in accordance to the principles of ethics. The interview aimed to explore three main themes:

(i) the general livelihoods of the community,
(ii) the impacts of living near peatlands and peat-fires, and
(iii) the effects of seasonal flooding in the villages.

Two Orang Asli Estate workers from Rancangan Penempatan Semula (RPS) Runchang along with three individuals from Kampung Tanjung Kelapa, Kampung Tanjung Ipoh and Kampung Melogo respectively were interviewed. The location of the Orang Asli villages and its proximity to Bukit Leelau is shown in *Figure 1*. The proximity of the villages to the Estate is deemed to be beneficial for the Orang Asli, especially for those it provided a source of income for. Apart from the two Estate workers who work at the Estate, around 20 people from RPS Runchang as well as a few (unnumbered) Orang Asli from Kampung Tanjung Ipoh are employed at the Estate. Further, rubber and oil palm cultivation are also a source of income for the Orang Asli from RPS Runchang and Kampung Tanjung Kelapa, while small-scale fruit farming acts as a source of income for those from Kampung Melogo.

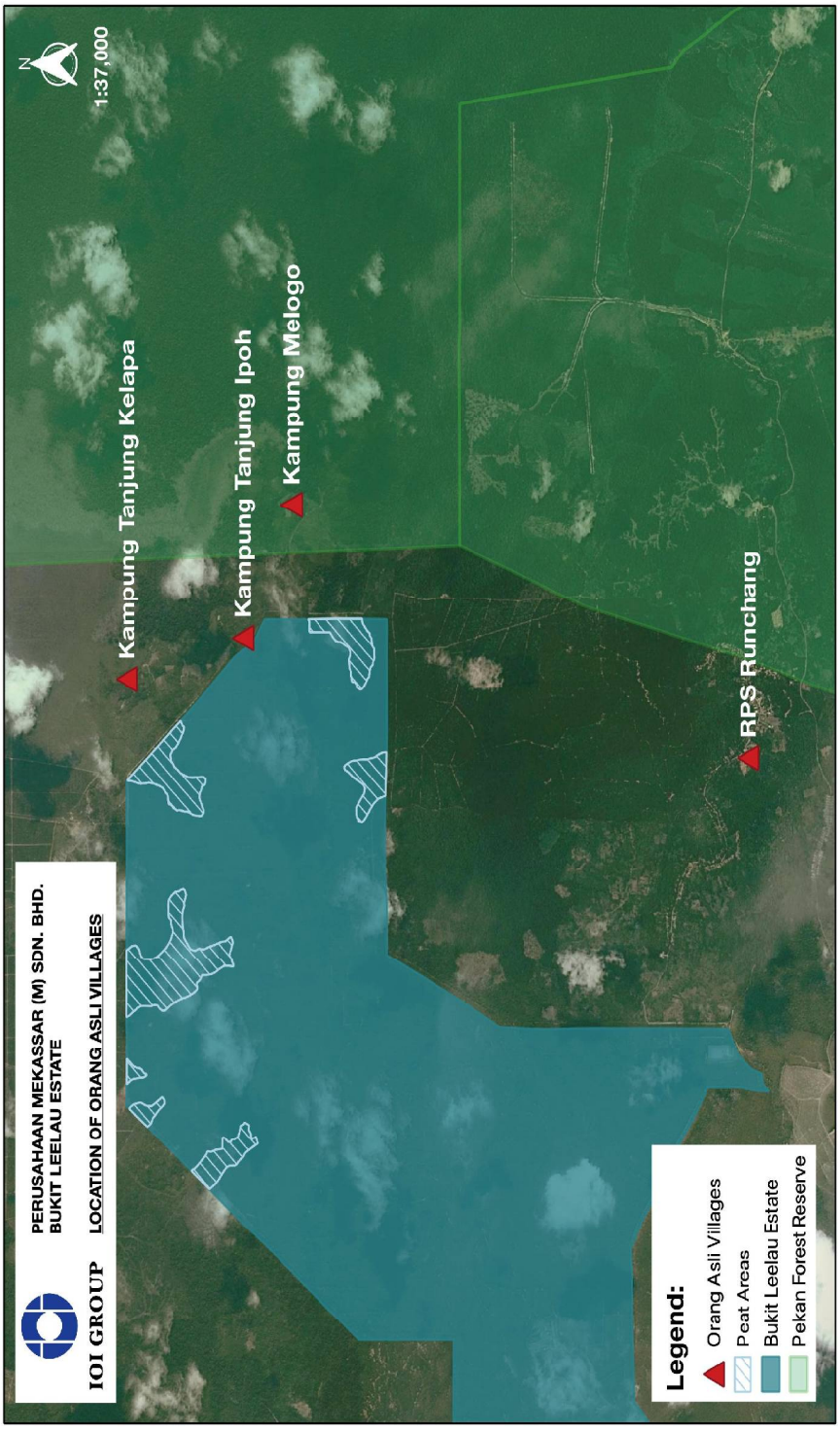

Figure 1 The location of all four Orang Asli villages neighbouring Bukit Leelau Estate, as well as its proximity to the Pekan Forest Reserve

Residence in all three *Kampungs* benefit from the Estate's connectivity to the highway, often using the Estate's road to travel in-and-out of their village. All interviewees from the three *Kampungs* claim that they or their families regularly travel to RPS Runchang to purchase basic necessities and general supplies.

All four villages are near peatlands and are aware that they are. However, living near peatlands does not seem to have an impact on their general day-to-day activities. During the dry season, the interviewees from RPS Runchang stated that fires were evident near the village, however it was only at a small-scale and never impacting their livelihoods. For the other three villages, no large-scale fires have been reported in recent years, with the most recent fire recalled by all three interviewees occurring in 2019. Pak Seman from Kampung Tanjung Kelapa stated that the fires of 2019 burned relatively close to their homes, with his family and him trying to extinguish the flames and restrict the spread of the fire approaching their land. While the interviewees from Kampung Tanjung Ipoh and Melogo recognised the fires of 2019, they added that it did not have an impact on their villages and seemed relatively small-scale. The three *Kampungs* shared similar experiences with regard to fire and flooding events, as opposed to the location of RPS Runchang – where geographic features may differ.

While interviewees like Pak Seman recognise the importance of land conservation, especially with fires impacting his surrounding land, Pak Seman mentioned that he has personally asked the fishermen, who light the fires as a luring technique, to be more cautious and aware of the impacts it brings. Pak Abu from Kampung Tanjung Ipoh and Pak Seman both corroborate that fishermen from neighbouring villages use chemical poisons introduced by outside middlemen as ignition sources on bamboo sticks as a luring technique for fish and claim that to be the reason for fire ignition. The fishermen set out at night, where the bright flames attract fish to the surface, making it easier to catch fish. However, according to Pak Seman, the numerous fire outbreaks that have approached near his village in the past have been a result of the failure to extinguish the flames used for fishing. Pak Seman stated that the Global Environment Centre (GEC) has intervened in the past, with regard to the fire events and he assumes that is why there has been little to no fires in recent years.

On the other hand, the impacts of flooding on the three *Kampungs* have been minimal in the past, with heavy rainfall only causing floods in lowland areas. All three interviewees claim that their homes and surrounding land are not impacted at times of flooding. As mentioned by Pak Seman, water-levels can rise up to 1 m (waistline level) during times of flooding, but only in lowland areas. That said, Cik Rapiah from Kampung Melogo and Pak Abu both stated that the road access to their villages often flood during high rainfall events, restricting access in-and-out of their village. At times like these, they usually have to wait for the water-levels to subside, which according to them, occurs fairly quickly once the rain has stopped. However, the two interviewees from RPS Runchang stated that flooding is quite common during the wet months, with high water-levels having impacted some of the homes quite severely.

Rehabilitation programme

As part of the 'Rehabilitation of Peat Swamp Forest Programme with Indigenous Community in Southeast Pahang Peatland Landscape' implemented by the GEC,

rehabilitation of degraded peatlands near Bukit Leelau were implemented. Rehabilitation by the GEC focussed on rewetting through canal blocking, with the construction of 10 canal blocks and an estimated 1 400 ha of peatland having been rewetted between April 2019 - March 2020 (GEC, 2020). While the objective of canal blocks are to increase the ability of peat water retention, in turn preventing further fire ignitions, in the context of this paper, it is important to highlight that this process was undertaken by GEC officers together with the local Orang Asli communities. The participation of local communities included helping with the construction of the canal blocks as well as collection of the wildings of the pioneer tree species, *Macaranga pruinose*, from forested areas near their villages which were then also planted across 9 hectares of degraded peatlands (GEC, 2020). Planting of the trees were conducted by both the Orang Asli communities and by Bukit Leelau Estate. The impact of the programme is shown in *Figure 2*.

Additionally, GEC also conducted peatland patrolling and Fire Danger Rating System (FDRS) training sessions for the local communities in Kampung Tanjung Kelapa and RPS Runchang. Further, there was community empowerment through training sessions on fire prevention and fire readiness (GEC, 2020). The GEC acknowledged the importance of the local community's role in fire prevention as they live and depend on the peatland ecosystems surrounding them. Two committee members from Kampung Tanjung Kelapa were appointed as patrollers to monitor fire prone peat areas and water-levels, change the warning colour code on FDRS signboards when they patrol as well as to take appropriate action in the case of any fire occurrence (GEC, 2020). Additionally, community empowerment also included the distribution of solar-powered systems in three *Kampungs* which not only generates electricity for lighting and electrical appliances but is also equipped with a submersible pump, water tank and filtering system that provides the village with a clean water supply (GEC, 2020). Furthermore, Kelulut bee-keeping, mushroom farming, organic agriculture farming, fish farming and handicraft weaving were all also introduced to the local communities. These alternate livelihood activities were aimed to help the Orang Asli to be self-sustainable, allowing for them to gradually increase their income through selling these products.

Figure 2 Observed positive effects of rehabilitation of the degraded peatland area as part of the rehabilitation programme implemented by the GEC. (Left) displays the site before any rehabilitation in 2019 and (Right) displays the same site after one year of rehabilitation (GEC, 2020)

CONCLUSION

While the works conducted by the GEC together with the local communities is only a small step towards better forest management practises, it is a step towards the right direction. The empowerment of and collaboration with the Orang Asli in Bukit Leelau is a clear example of the contributory efforts the Orang Asli can have on forest conservation and rehabilitation. Through the framing of the inclusion of Orang Asli in protected area management, it is evident that they are key players in sustainable natural resource management. At the same time, the Orang Asli require support with regard to basic necessities, improving overall quality of life and protection of land-rights and welfare. To assure effective management of forested areas, the state authority must acknowledge and recognise the historical presence of Orang Asli in the area, their ancestral land rights and their role as stakeholders. Acknowledging the Orang Asli as partners in the management of natural areas and resources will contribute to the success and efficiency of implementing an inclusive framework. Such institutional reforms are necessary to move forward and benefit both the state and the Orang Asli. Only once the true impact community forestry and community empowerment has on mitigation efforts against future environmental disturbances is acknowledged, can the benefits of rehabilitation be evident at a national or even a global scale, lending the next steps towards achieving sustainable development goals.

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