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HARMONY OF OIL PALM PLANTATIONS, WILDLIFE, AND CITIES IN INDONESIA

By
PASPI Monitor

RESUME

Oil palm plantations are accused of causing biodiversity loss. Referring to the adopted spatial planning system, it shows that Indonesia maintains the harmony of national space balance, including cultivation areas (urban and agricultural/oil palm plantation sectors) and conservation/protected areas. The development of oil palm plantations (and the urban sector) is outside the protected forest areas (as a biodiversity habitat). On the other hand, the presence of oil palm plantations in rural areas has the potential to contribute to wildlife conservation through increased income and poverty reduction for communities in rural areas, CSR programs of oil palm plantation companies, and the function of biodiversity conservation mechanisms.

INTRODUCTION

The relationship between oil palm plantations and biodiversity conservation (including wildlife) has become one of the issues raised by a few experts and NGOs regarding palm oil. The relatively rapid expansion of oil palm plantations in the last 20 years is often accused of causing biodiversity loss (Fitzherbert *et al*., 2008; Koh and Wilcove, 2008; Foster *et al*., 2011; Savilaakso *et al*., 2014; Vijay *et al*., 2016; Austin *et al*., 2019). The association of oil palm plantations with the issue of biodiversity loss has also resulted in palm oil and its derivative products being classified as high-risk commodities in the European Union (PASPI Monitor, 2022, 2023[a], 2023[b], 2023[c], 2023[f]).

This accusation may be influenced by the history of development in mainland Europe and North America, which at the beginning of their development (before the 19th century) carried out total deforestation of their natural forests and no longer left virgin forests as the "home" of biodiversity. This is reflected in the loss of primary forests (virgin forests) in the American region and in mainland Europe (LCA Works, 2018, Sabatini *et al*. 2018, Barredo *et al*. 2021, PASPI Monitor, 2023).

Unlike the history of Europe and North America, Indonesia from the beginning of development has adopted what is called the harmony of national space balance in social, economic and ecological dimensions. Community settlements and their socio-economic activities and wildlife habitats (biodiversity) live harmoniously side by side in their respective spaces. This article will discuss how this harmony occurs, especially in oil palm plantations, communities, and wildlife in the national space.

NATIONAL SPACE HARMONY

The supreme law of Indonesia (The 1945 Constitution of the Republic of Indonesia) has adopted sustainable development. The earth and waters along with their natural resources can be utilized as much as possible for the prosperity of the people across generations.

Welfare society can only be achieved by increasing people's income and the availability of goods/services on an ongoing basis. Referring to the economic law “Say's Law”, to generate income and goods/services, economic activities that produce income and goods/services, including food, non-food, and environmental services, are needed. Therefore, the agricultural sector, including oil palm plantations, and the industrial sector (urban) are needed. Meanwhile, environmental services are obtained from nature/forest conservation, including biodiversity (including wildlife).

The oil palm plantation, industrial, and forestry sectors produce different and non-substitutable products. Food cannot be replaced with non-food products from industry (urban) or environmental services (carbon cycle, hydrology conservation/water management, natural fortification). Conversely, environmental services produced from forestry cannot be replaced by oil palm plantations and industry. Therefore, the existence of these three sectors must remain and their sustainability must be maintained.

This is the meeting point of harmony between the industrial sector (urban), oil palm plantations (and naturally other agricultural sectors) and forestry (PASPI Monitor, 2023). All three must develop and be sustainable in their respective spaces which are regulated by national spatial planning policies.

Since the beginning of development in Indonesia, this harmony has been accommodated in land use policies. In the New Order era, spatial planning was regulated in the Forest Use Agreement (TGHK) which was then outlined in Law No. 41 of 1999 on Forestry and Law No. 26 of 2007 on Spatial Planning.

Land space is divided into protected areas and cultivation areas. In addition to being the “home” of biodiversity (wildlife/fauna, flora, and microbes), protected areas/forests also play a role in producing environmental services. Meanwhile, cultivation areas are spaces for the urban sector and the agricultural/plantation sector, and others. Thus, the forestry sector coexists in harmony in their respective spaces (Figure 1).

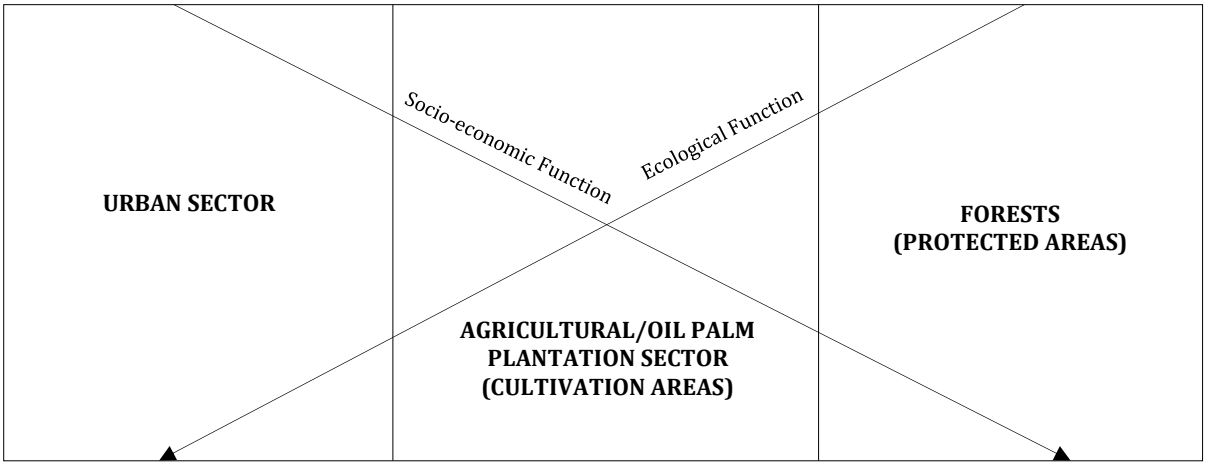

Figure 1. Harmony Spaces for Industrial (Urban), Oil Palm Plantation, and Forestry Sectors

According to Forestry Statistics data (Ministry of Environment and Forestry, 2021), of around 187 million hectares of Indonesia's land area in 2020, there were around 88 million hectares of forested forests. This means that about 47 percent of Indonesia's land is still forest. This proportion is above the minimum requirement set by the law (30 percent). More than half of these forests are primary forests as the natural habitats for biodiversity such as elephants, tigers, orangutans, mawas, rhinos, lions, bears, various types of birds and others and wild plants spread throughout mainland Indonesia.

Concurrently, the agricultural area (in rural areas) is around 55 million hectares or 29 percent of the land area. This area includes oil palm plantations with an area of approximately 14.9 million hectares (Ministry of Agriculture, 2021) or about 8 percent of Indonesia's land area. Meanwhile, the urban sector (including residential areas, offices, business centers, industry, and others) reaches 43 million hectares or around 23 percent of the land.

Referring to these data and facts, the accusation of experts (Fitzherbert *et al*., 2008; Koh and Wilcove, 2008; Foster *et al*., 2011; Savilaakso *et al*., 2014; Vijay *et al*., 2016; Austin *et al*., 2019) and NGOs stating that Indonesia's biodiversity is threatened with extinction due to the development of oil palm plantations is inaccurate. Biodiversity, including wild animals and oil palm plantations, lives in harmony in different spatial contexts in Indonesia.

Thus, it is quite clear that the industrial sector in urban areas, the agricultural/oil palm plantation sector in rural areas, and forests as the habitats for biodiversity can live and develop in one land space in Indonesia. Once again, the forests as the "home" of biodiversity must remain because they have their own function and cannot be replaced by the function of the agricultural/oil palm plantation sector or the function of the urban sector. On the other hand, the urban sector as a place for people's activities and life also has its own place and function which cannot be replaced by either the forests or the agricultural/oil palm plantation sector. Likewise, the agricultural/oil palm plantation sector as a producer of food, energy, and biomaterials also has its own space and function that cannot be replaced by the urban or forestry sectors.

The urban, agricultural/oil palm plantation, and forestry sectors have their respective functions in the ecosystem, where these functions cannot replace each other so they must live harmoniously side by side in their respective designated spaces.

HARMONY SAVES WILDLIFE

The keywords for wildlife conservation are the conservation of forests, especially primary forests (virgin forests) which are the "home" of wildlife. The spatial policy of spatial harmony between the urban, oil palm plantation and forestry sectors (wildlife habitat) not only places each in the right space but also saves wildlife. The existence of oil palm plantations in harmony is interesting to look at further.

Various studies in various countries have shown that poverty issues are closely related to forest sustainability (Kirr *et al.,* 2004; Pfaff *et al.,* 2008; Miyamoto, 2019; Ofozor *et al.,* 2022). The poverty of communities in rural areas contributes to forest degradation. Reducing poverty in rural areas has the potential to save forests (and naturally wildlife conservation). Therefore, efforts to eradicate poverty and increase income of rural communities contribute to forest conservation.

The presence of oil palm plantations in Indonesia, which are generally in rural areas, has been empirically proven to reduce poverty and increase the income of rural communities (Susila, 2004; World Growth, 2011; Riffin, 2011; PASPI, 2014; Edwards, 2019; PASPI, 2023; PASPI Monitor, 2023[e]). The socio-economic progress of oil palm villages is better than non-oil palm villages (PASPI, 2022, 2023). The increase in income of rural communities brought about by oil palm plantations can raise their access to meet food, health, and education needs.

This also shows that oil palm plantations have a role in reducing poverty in rural areas (PASPI, 2023). In fact, various empirical studies have also shown that oil palm villages have a lower poverty rate than non-oil palm villages (PASPI, 2014; Euler *et al.,* 2017; Dib *et al.,* 2018; Edwards, 2019; Qaim *et al*., 2020).

Referring to the results of the studies above, the presence of oil palm plantations in rural areas has the potential to contribute to the conservation of forests where wildlife exists. Increasing the source of income for oil palm plantation communities in rural areas means that rural communities no longer need to utilize the surrounding forests (either directly or indirectly) as a source of income.

Apart from providing new economic resources for rural communities, a few oil palm corporations also provide Corporate Social Responsibility (CSR) funds for the conservation of

wildlife in the surrounding forests. Oil palm plantations also have five functions/mechanisms for biodiversity conservation, namely preservation and development of oil palm plant varieties, development of HCV and HCS, regrowth biodiversity, development of cover-crop and biomass recycling, and development of food-livestock-oil palm crop integration (PASPI Monitor, 2023[d]). To be more convincing, the link between oil palm plantations and rural forest conservation requires further study to reveal how much contribution oil palm plantations make in forest conservation, including as wildlife habitat conservation.

CONCLUSION

Since the beginning of development, the spatial planning policy in Indonesia has adopted the principle of spatial harmony where protected forests/forested conservation serve as the "home" of wildlife or other biodiversity. Meanwhile, the spaces for development of oil palm plantations (agriculture in general) and the urban sector (industry, residential areas, business centers, and others) are outside the "home" of wildlife.

Of approximately 187 million hectares of Indonesia's land area, around 47 percent of the land is forested area as the "home" of wildlife. The remaining 57 percent is allocated to the agricultural/oil palm plantation and urban sectors. Meanwhile, the area of oil palm plantations is only about 8 percent of Indonesia's land area.

Various studies have revealed that reducing poverty in rural communities contributes to forest sustainability. Meanwhile, various empirical studies have also revealed that the presence of oil palm plantations in rural areas contributes to increasing income and reducing poverty for people in rural areas. In addition, oil palm plantations also have a biodiversity conservation mechanism function, and several oil palm plantation companies also have CSR programs related to wildlife conservation. This shows that oil palm plantations have the potential to contribute to wildlife conservation.

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