

INCLUSIVITY OF OIL PALM PLANTATIONS

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RESUME

As stated by the World Bank (2012) in its publication entitled: Inclusive Green Growth: The Pathway to Sustainable Development, it is stated that sustainability is not enough to only green growth but also must be inclusive. Therefore, to measure sustainability requires indicators of inclusivity both economically, socially, and ecologically. Inclusivity indicators for each sector may be different but have the same principles.

The development of the oil palm industry, including plantations as one of the strategic industries/sectors in Indonesia, is also mandated to uphold the principle of inclusivity in these three aspects. Built in, the presence of oil palm plantations also has economic, social and ecological benefits that are not only enjoyed by those who are directly involved in oil palm plantations as farmers or plantation company workers, but also enjoyed by the local community who are not directly involved with oil palm plantations. This shows the inclusivity of oil palm plantations and establishes itself as part of the solution to achieving the SDGs. In addition, the inclusivity of oil palm plantations can also be used as a counter issue for the massive black campaigns attacking palm oil.

INTRODUCTION

Since 2015, the global community through the United Nations has established a global development platform for the 2015-2030 period, namely Sustainable Development Goals (SDGs). Sustainable development has three dimensions, namely economic sustainability, social sustainability, and environmental sustainability. The three dimensions have a balanced proportion in contributing to the quality of sustainability.

As stated by the World Bank (2012) in its publication entitled: **Inclusive Green Growth: The Pathway to Sustainable Development**, it is stated that sustainability is not enough to only green growth but also must be inclusive. Therefore, to measure sustainability requires indicators of inclusivity both economically, socially, and ecologically. Inclusivity indicators for each sector may be different but have the same principles.

As a global platform, the concept of inclusivity is also being the development basis of sectors/industries carried out by a country. Indonesia as one of the UN member countries that also ratified the SDGs along with the concept of inclusivity has mandated all sectors to carry the concept of inclusivity towards the activities if industrial/sector, including the palm oil industry both in the upstream sector (plantations and mill) to the downstream sector (end-user industry).

On the other hand, oil palm plantations as an upstream sector in palm oil industry which is a strategic sector in the national economy, have always been the target of black campaign attacks from anti-palm oil parties. This negative campaign is not a new thing for oil palm plantations but has intensified in the last decade. Even recently, there has been a negative campaign against Indonesian oil palm plantations which are considered the actors of burning land and forests in Papua and sexual harassment. Even though the black campaign issues are not in accordance with actual data, facts and have not been proven true, but because they have been widely published, the issue is considered true so that this seriously damages the image of the palm oil industry and creates a wrong perception of palm oil in the global consumers.

Therefore, in this paper, we will discuss the inclusivity of oil palm plantations both economically, socially, and ecologically with the limitations of the concept of inclusivity discussed in this paper which is still a general description using various indicators. It is hoped that this paper can be an introduction to further discussion in formulating indicators for the inclusivity of oil palm plantations.

ECONOMIC INCLUSIVITY OF OIL PALM PLANTATION

Since its beginning in the 1980s, the development of oil palm plantations in Indonesia, both as part of agricultural development and regional development (transmigration) initiated by the Indonesian government, is aimed to open and build new economic growth centers in rural areas. Underdeveloped, rural, remote, isolated, hinterland areas are developed to become new economic growth centers. This government programs also not only carried out in remote areas but also make use of abandoned scrubland ex-logging which is found on the islands of Sumatra, Kalimantan, and Sulawesi (PASPI, 2020^a). The development of oil palm plantations in the context of developing rural areas is a pioneering economic activity as well as a reforestation activity that re-greening the economy in areas damaged by logging in the past.

Rural areas that are generally still empty, isolated, underdeveloped, or degraded land (shrubs) designated by the government for oil palm plantation development areas, are developed by state (BUMN) and/or private plantation companies as the nucleus and local communities as plasma in a Nucleus Estate Smallholders Project (PIR) collaboration or another form of partnership. Considering that the area concerned is still isolated, private/BUMN plantations must build roads/bridges (access road), develop farm roads, develop nucleus and plasma plantations, build employee housing, education, and health facilities, social/public facilities, and immature plant maintenance.

The development of new nucleus plasma plantations has attracted investment from local farmers to participate in planting oil palm as independent smallholder. In general, the number of smallholders plantations grows rapidly in an area, so that the their plantations is larger than plasma plantations (PIR). This is because this commodity has a high prospective profit compared to other plantation commodities, causing many rural farmers to convert their plantations into oil palm plantations. This is in line with Siradjuddin's research (2015) which explains that farmers plant oil palm for several reasons including easier

marketing, easier to obtain production facilities, as well as high selling prices and farmers' income.

Partnerships of oil palm plantations in rural areas that were previously only between private and state-owned plantation companies with smallholders (plasma and independent) have attracted the development of other sectors in rural areas such as SMEs and cooperative which are engaged in suppliers urban industrial goods/services, as well as traders of agricultural/fishery/livestock products to fulfill the food needs of oil palm plantation communities (Figure 1).

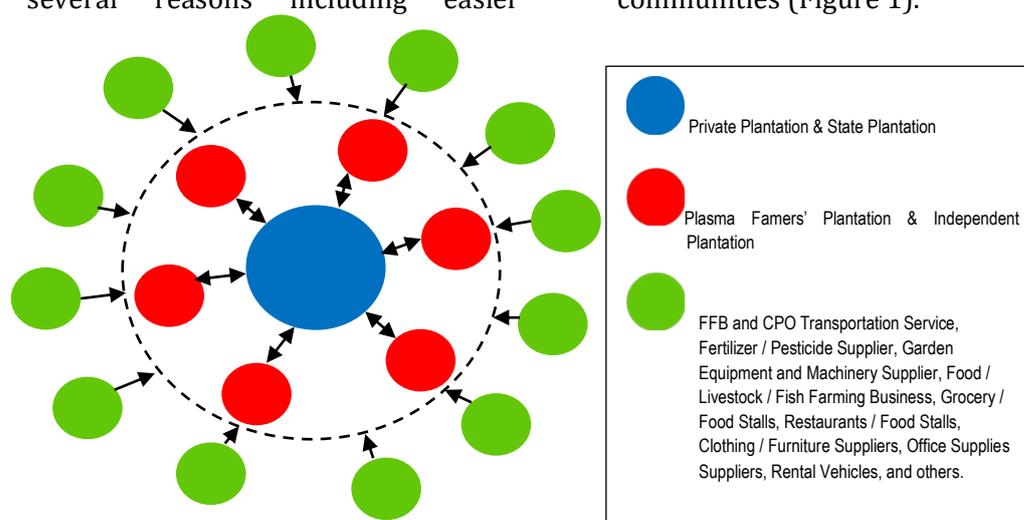


Figure 1. From an Oil Palm Partnership to an Economic Partnership and a New Rural Economic Growth Zone.

The results of the PASPI study show that the transactions (sales) between rural agricultural products (produced by food farmers/ranchers/fishermen) which are marketed to oil palm plantation communities reach Rp. 92 trillion/year. Consists of food farmers sales of Rp. 54.6 trillion/year, cattleman sales of Rp. 24.1 trillion/year, and fisherman sales of Rp. 13.7 trillion/year. In economic terms, the oil palm partnership creates a multiplier effect, where an increase in the income of the plantation community will also increasing the consumption of food products produced by food farmers / breeders / fishermen so that it will indirectly increasing of income from local community who supply these food products.

At a later stage, the growth of oil palm plantations, especially after producing palm

oil (CPO) in that area, develops into centers of settlements, offices, markets, etc. in such a way that as a whole it becomes a new agricultural city. The development of oil palm plantations attracts new investment to isolated areas in rural areas so that they can turn underdeveloped areas into new economic growth centers. This is also confirmed by a study by World Growth (2011) which states that oil palm plantations in Indonesia are an important part of rural development.

These findings are also in line with various empirical studies that have shown evidence that the presence of oil palm plantations in rural areas provides benefits to the rural economy. Supriadi (2013) states that the development of oil palm plantations has resulted in high population mobility so that the areas around plantation

development appear as centers of economic growth in rural areas. This condition increases the purchasing power of rural communities, especially for primary needs and the production facilities for oil palm plantations. It is estimated that the money circulation that occurs at the location in the long term will stimulate economic growth in this region by growing trade and services.

Another evidence that shows oil palm plantations as an inclusive economic

locomotive is the development of isolated and underdeveloped remote areas to become new economic centers (cities). According to the Ministry of Transmigration and Manpower (2014), up to 2013, at least 50 underdeveloped/isolated rural areas had developed into new growth areas based on palm oil production centers. A list of new economic growth centers in the region due to the development of oil palm plantations can be seen in Table 1.

Table 1. Oil Palm-Based New Economic Growth Center

Province	Oil Palm Based Regional Growth Center
North Sumatera	Stabat, Belarang, Sei Rampah, Limapuluh, Perdagangan, Rantau Prapat, Aek Kanopan, Aek Nabara, Kota Pinang, Sosa, Sibuhuan, Panyabunga, etc.
Riau	Pasir Pengaraian, Bangkinang, Siak Sri Indrapura, Rengat, Tembilahan, Bengkalis, Bagan Siapi-api, Teluk Kuantan, Dumai, Pekanbaru, etc.
South Sumatera	Sungai Lilin, Tugumulyo, Pematang Panggang, Bayung Lencir, Musi Rawas, Peninjauan, Muara Enim, Lahat
Jambi	Sarolangun, Sungai Bahar, Sengeti, Kuala Tungkal, etc.
Central Kalimantan	Sampit, Kuala Pembuang, Pangkalan Bun, Kasongan, etc.
East Kalimantan	Sangatta, Tenggarong, Tana Pase, Tanjung Redeb, Nunukan, Sendawar, etc.
South Kalimantan	Batulicin, Kotabaru, Pelaihari, etc.
Sulawesi	Mamuju, Donggala, Bungku, Luwu, Pasangkayu, etc.

Source: Ministry of Transmigration and Manpower (2014)

This means that the economic benefits created by the growth of oil palm plantations are not only enjoyed by the people who work on oil palm plantations (workers and farmers), but are also enjoyed by the people who work as supplier food products especially in rural areas. The World Bank (2012) also agrees with this fact by mentioning inclusive oil palm plantations as part of inclusive growth.

SOCIAL INCLUSIVITY OF OIL PALM PLANTATION

Inclusive indicators that are commonly used to measure social sustainability, divided into: its impact on rural development and poverty eradication. These two indicators are very important, especially in developing countries like Indonesia. Both

of two indicators can also be seen in oil palm plantations.

For these two indicators, many empirical studies have revealed it. Oil palm plantation technology that is labor-intensive, of course, absorbs a lot of workers with various backgrounds of expertise. The PASPI study (2017) found that the number of workers absorbed by oil palm plantation companies is around 67 percent of workers with junior high school education and the rest are high school graduates and above (diploma/bachelor degree). However, currently, the educational backgrounds of workers in oil palm plantation company and farmers are quite diverse in levels and continue to increase, such as the number of bachelors/masters working in plantation companies or as a farmers who are known as second-generation oil palm farmers who are technology literate and educational.

Oil palm plantations contribute to job creation. Ditjenbun's data (2020) states that there are around 5.6 million oil palm farmers. Apart from that, it is able to absorb millions of indirect workers as a result of the creation of economic activities in other non-palm oil plantation sectors such as the trade sector, service sector, transportation sector, and other sectors in the region. The number of trade transactions or suppliers of goods and services needed by oil palm plantations grows along with the growth of oil palm plantations. Likewise, the growth of oil palm plantations has also attracted the growth of food production businesses (food crops, livestock, and fisheries) in the surrounding.

For social inclusion indicators, various studies also prove that the multiplier impact of oil palm plantation growth is also quite large for the development of rural areas. The total effect of the growth of oil palm plantations in each region is to accelerate the progress of rural areas (World Growth, 2011). Economic growth in palm oil centers is faster than in non-palm oil centers, as evidenced by the PASPI study (2014) which shows that regional economic growth is very responsive to an increase in palm oil production so that an increase in palm oil production attracts regional economic growth that is greater than the increase in CPO production. The development of new economic growth centers in rural areas, previously isolated and remote areas (Table 1), has also been driven by the growth of oil palm plantations.

Another indicator that shows the level of social inclusivity of oil palm plantations is reduce of poverty. This role has been confirmed from various empirical studies. One of the empirical studies that show this is the research of Syahza (2011) which shows that the development of oil palm plantations in Riau Province has had an impact on accelerating the economic development of the Riau community and contributing to efforts to alleviate poverty in rural areas.

Research by Susila and Munadi (2008) and Joni *et al.* (2012) also show that increasing of palm oil production able to reduces poverty. Goenadi (2008) suggests that more than 6 million people involved in Indonesian oil palm plantations have escaped poverty. World Growth (2011)

states that oil palm plantations in Indonesia have an important and significant role in reducing poverty.

BPDPKS research contained in the Study Center for Multilateral Policy Research and Development, Ministry of Foreign Affairs (2019) states that oil palm plantations contribute greatly to the GRDP of Riau Province as well as making this province have the highest Human Development Index (HDI) in Sumatra and occupy the sixth position in Indonesia.

ECOLOGICAL INCLUSIVITY OF OIL PALM PLANTATION

In planet Earth's atmosphere, the same thing happens in the human body. Every second, the earth's atmosphere is packed with carbon dioxide from human activities. Humans, animals, motorized vehicles, and factories around the world emit carbon dioxide into the Earth's atmosphere which we know today as greenhouse gases. According to IEA (2016), the largest source of carbon dioxide emissions is activities that use petroleum fuels or fossil energy, such as motor vehicles, factories, and others. Carbon dioxide emitters to the earth's atmosphere are developed countries that have long been using petroleum fuels in very large quantities as well as countries with high populations (PASPI, 2020^b). As a result, the earth's air is getting warmer, which we know as global warming. This is what causes global climate change such as drought, storms, floods, and others.

Therefore, in the context of the global ecosystems, the role of a development sector in reducing emissions and absorbing carbon emissions from the earth's atmosphere is a very important indicator of ecological inclusivity. An economic activity that is able to absorb carbon dioxide from the earth's atmosphere and/or reduce carbon dioxide emissions to the earth's atmosphere, is more inclusive from an ecological perspective than sectors that emit carbon into the earth's atmosphere.

God created the oil palm plants (including all plants) on earth as "the lungs of the ecosystem" (Figure 2). Through photosynthesis carried out by plants, carbon

dioxide in the earth's atmosphere is absorbed by plants. Through the metabolism of these plants, carbon dioxide is broken down into carbon and oxygen. Carbon is then processed and converted into the plant body (roots, stems, leaves) or

biomass/biomaterial and products produced by plants to meet human needs. Meanwhile, oxygen is released into the earth's atmosphere/air for humans to breathe when breathing.

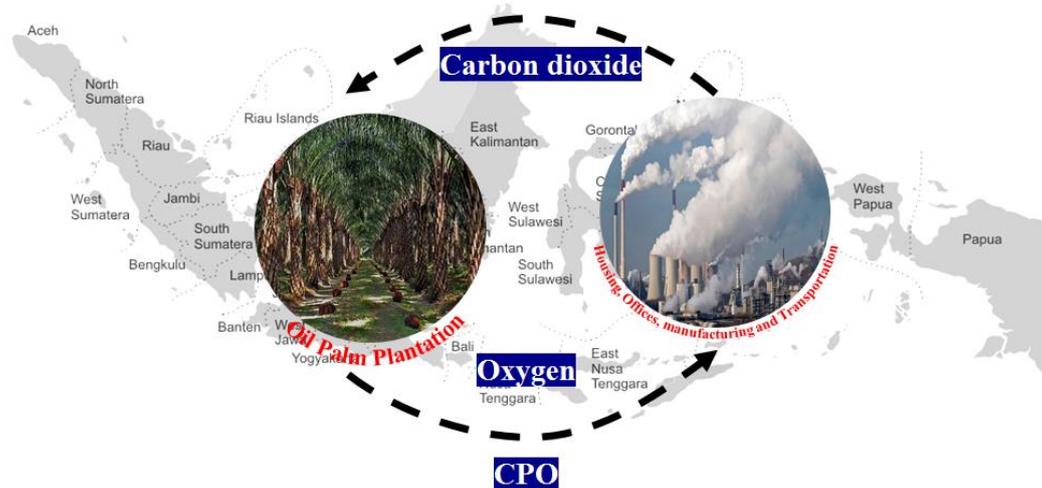


Figure 2. Oil Palm Plantation as a World Lung

Oil palm plants also as a green plants, who has has the ability to absorb carbon dioxide and produced oxygen into the atmosphere. Comparison on the ability to absorb carbon dioxide and produced oxygen between oil palm plantation and forest showed in Table 2.

Each ha of oil palm plantation absorbs a net 64.5 tons of carbon dioxide each year and produces about 18.7 tons of oxygen.

Meanwhile, a forest's net absorption amounts to about 42.4 tons of carbon dioxide each year and it produces about 7.1 tons of oxygen. Based on the ability to absorb carbon dioxide and produced oxygen, has implicated that the efficiency of photosynthesis in oil palm plantation about 3.2 percent or higher that forests only accounted 1.7 percent.

Table 2. Carbon dioxide absorption and oxygen production of oil palm plantations and tropical forests

Indicators	Tropical Forest	Oil Palm Plantation
Gross assimilation (tons CO ₂ /ha/year)	163.5	161.0
Total respiration (ton CO ₂ /ha/year)	121.1	96.5
Net assimilation (tons CO ₂ /ha/year)	42.4	64.5
Oxygen production (O ₂) (tons O ₂ /ha/year)	7.09	18.70

Source: Henson (1999)

This shows that oil palm plantations are superior to forests in terms of carbon dioxide absorption and oxygen production. With an area of oil palm plantations resulting from the reconciliation of land cover data of 16.38 million hectares, oil palm plantations are able to absorb 1 gigabyte of carbon dioxide and produce 307 million tons of oxygen. Looking at these data and facts, it

can be seen that the role of oil palm plantations as the lungs of the global ecosystems has an inclusive contribution from an ecological/environmental perspective.

Ecological inclusivity can also be seen from the history of the development of Indonesian oil palm plantations from ex-logging land which also shows its role in

environmental reforestation. In addition, oil palm plants that have a lower water footprint so that they do not threaten water resources (PASPI, 2020^d) and their ability to produce organic matter to add nutrients to the soil also plays a role in preserving land fertility (PASPI, 2020^c), further adding to the fact that oil palm plantations is an ecologically inclusive sector.

CONCLUSION

The economic inclusivity of oil palm plantations in addition to its contribution to foreign exchange is also reflected in its role/contribution in the development of rural areas, creating new economic growth centers in rural areas, and the impact of the multiplier economy of oil palm plantations. Likewise, the social inclusivity of oil palm plantations is reflected in the absorption of rural labor and reducing poverty. Meanwhile, the ecological inclusivity of oil palm plantations is shown by its role as the "lungs" of the ecosystem that absorbs and reduces carbon dioxide and generates oxygen into the earth's atmosphere, and also its role in conserving water resources and land fertility.

With the economic, social, and ecological inclusivity of oil palm plantations, the economic, social, and ecological benefits of oil palm plantations are not only enjoyed by those who are directly involved in oil palm plantation activities but also enjoyed by the general public who are not directly involved with oil palm plantations. Furthermore, this also shows that the contribution of oil palm plantations is part of the solution to achieving the SDGs.

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