

# EXPANSION OF OIL PALM PLANTATIONS: PT AGRAPANA WUKIR PANCA SOCIAL, ECONOMIC AND ENVIRONMENTAL ISSUES

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## ABSTRACT

Oil palm plantations have positive and negative impacts on the environmental, social and economic aspects of local communities. Through an understanding of the data on environmental, social and economic conditions makes it easier for decision makers in policy. This research uses survey methods and in-depth interviews (state the number of respondents, state in-depth interviews). This study aims to measure the level of economic, social and ecological vulnerability due to oil palm plantations. The data used are primary data and secondary data. Primary data collection through structured and in-depth observation and interviews. Secondary data is obtained from the village office, related government agencies, BPS, books, journals, or data from the internet which contains theories or related research results. The results of this study explain that oil palm expansion that occurs in Terantang Manuk Village is through the PIR-Trans pattern, KKPA, PKS without plantation, buying and selling, grants, and self-help or independent. The environmental impact caused by oil palm expansion is reducing fruit, fish, vegetable and game shellfish and decreasing the quantity of groundwater, especially during the dry season. The economic impact due to the expansion of oil palm plantations has seen an increasingly unified economy between the upper, middle and lower classes. Meanwhile, the resulting social impact is the change in customary norms, the practice of leasing and new conflicts.

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## INTRODUCTION

Oil palm plants were first imported to Indonesia in 1848 by the Dutch East Indies government. Some of the seeds were planted in the Bogor Botanical Gardens, while the rest of the seeds were planted on roadsides as ornamental plants in Deli, North Sumatra in the 1870s and then in 1911 by Belgian citizens, Adrien Hallet and K Schadt, by planting them commercially in North Sumatra (Dewanto, 2013). Then in 1980 the development and expansion of oil palm plantations in Indonesia.

Riau Province is the region that has the largest oil palm plantations in Indonesia, in 2018 the area of oil palm plantations in this province reached 2,706,892 ha with production of

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8,496,029 tonnes or 19.81% of the National CPO contribution (Dadi, 2021). Expansion of oil palm plantations began in 1984 and most of the oil palm plantation areas are owned by corporate plantations namely 49.81% and community plantations 45.54% (Directorate General of Plantations, 2020).

The demand for land for the expansion of oil palm plantations in Riau Province continues to increase, which has triggered a high rate of land or forest conversion into oil palm plantations. (Barus et al., 2012) states that throughout Sumatra the area of oil palm in peat areas is around 1.5 million hectares, while in dry land it is around 3.2 million hectares. The largest area of oil palm peat is in Riau Province, followed by South Sumatra and North Sumatra. While the spread of oil palm in dry land is also the largest in the three provinces in the order of Riau Province, followed by North Sumatra and the third in South Sumatra.

Oil palm expansion also has an impact on decreasing biodiversity in a landscape. In the ISPO guidelines, biodiversity conservation is one of the principles and criteria in determining the sustainability of an oil palm plantation business by having 2 indicators, namely (1) Farmers, farmer groups, cooperatives must know the presence of animals and plants in the area and around the plantation, before and after the commencement of the plantation business, (2) There are records of animals and plants in the garden and around the garden (Budidarsono et al., 2013).

The expansion of oil palm plantations has made farmer households transform their livelihood, namely from subsistence shifting cultivation to commercial shifting cultivation by planting oil palm plants (Obidzinski et al., 2012). As well as the occurrence of land release events by some farmers due to land buying and selling activities and land acquisition. Meanwhile, the development of businesses and jobs outside of oil palm farming is basically able to improve existing inequalities but has not changed the distribution of income to be even (Widiono, 2008). Basically, the farming community around the forest is a community that depends on forest resources. The change of forest into oil palm plantations resulted in a change in the livelihood niche so that it had an impact on the livelihood structure of the farmer's household.

Management of oil palm plantations that are far from efforts to prosper the community actually creates open conflicts over land grabbing (Thomas, 2017), while tenurial conflicts are conflicts that often occur in oil palm plantations (Dhiaulhaq et al., 2018; Mantiri, 2013; Mustofa & Bakce, 2019; Riyanto et al., 2014; Wulansari, 2017). The expansion of oil palm plantations has resulted in a high frequency of social conflicts, especially conflicts between smallholders and smallholders and oil palm plantation companies (Amalia, 2016), whereas (Consortium for Agrarian Reform, 2019) states that out of 144 explosions of agrarian conflicts that occurred in the plantation sector throughout 2018, as many as 83 cases or 60% occurred in oil palm commodity plantations. Based on those phenomenon's, the objectives of this study are (1) analyzing problem environment consequence expansion of oil palm plantations, (2) analyzing the economic problems due to the expansion of oil palm plantation, and (3) analyzing social problems due to the expansion of oil palm plantations

## **METHOD**

This research uses case studies (Cresswell, 2017). This case study focuses on a particular problem, namely plantation expansion: social, economic and environmental issues in Terantang Manuk Village. This research strategy uses a mixed method by combining quantitative research methods with qualitative research methods (Moleong, 2021).

This research was conducted from December 2017 to January 2022 which is on the Trans Sumatra highway KM.95, Pangkalan Kuras District, Pelalawan Regency, Riau Province. Terantang

Manuk Village has three hamlets where Hamlet I and Hamlet II which are the main areas are on the Trans Sumantera road route, while Hamlet III (Pangkalan Papan) is located in a separate area (enclave). The area of Terantang Manuk Village is 5,715 hectares with 765 families with a population of 2,486 people in 2017 with 711 families or 93% of families are farmers (Central Bureau of Statistics 2018).

The data used are primary data and secondary data. Primary data collection through observation and structured and in-depth interviews. Meanwhile, secondary data comes from private documents, letters, court decisions, and information from the mass media related to research.

## RESULTS AND DISCUSSION

### A. Environmental Issues

#### 1. Expansion Pattern

There are various patterns of smallholder oil palm cultivation in Terantang Manuk Village. Some are self-help and some are partnerships. Expansion of oil palm is taking place through various patterns, namely the PIR-Trans, KKPA, PKS without plantations, buying and selling, grants, and self-help or independent schemes.

Table 1 explains that 83% of the oil palm plantations in Terantang Manuk Village are controlled by corporations and 17% are controlled by the community. The expansion of oil palm plantations is not only due to the government's legal-formal authority but also the local cultural authority belonging to community leaders, both of which can occur together.

**Table 1**  
**The pattern of expansion and the actors involved**

Expansion Pattern	Year	Plantation Area	Actors Involved and Their Roles
PIR-Trans	2019-2022	1708, 8 ha	Government (regulator), companies (nucleus), smallholders (plasma)
KKPA	2019-2022	1,464.9 ha	Government (regulator), companies (nucleus), farmers (plasma), cooperatives (KKPA)
PKS without gardens	1018-2022	0 ha	Government (regulator), companies (PKS), cooperatives (partners)
Buy and sell	2019-2022	88 ha	Land brokers, people outside the area from Medan, Bekasi and Bandung (buyer)
Grant	2016-2022	120 ha	Traditional elders (grantors), transmigrant communities (farmers)
Independent	2018-2022	438.2 ha	Community (farmers)

PIR-Trans is a pattern of implementation, the development of plantations by using large plantations as the core that helps and guides the surrounding people's plantations as plasma in a system of cooperation that is mutually beneficial, intact, and sustainable ([Instruction of the President of the Republic of Indonesia, 1986](#)).

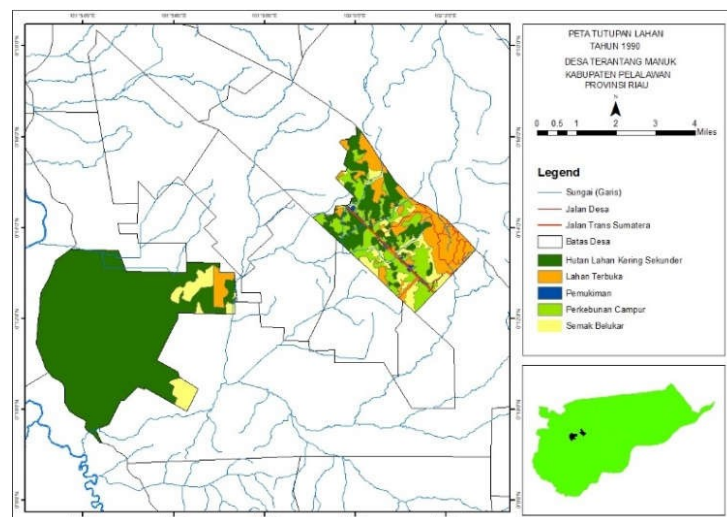
Credit to Primary Cooperatives for Members (KKPA) is a partnership pattern between the nucleus and plasma companies in a cooperative organization to increase the efficiency of participating farmers' land in an effort to increase the income and welfare of members through long-term credit from banks.

Palm Oil Mills (PKS) without plantations are palm oil mills that do not own land or oil palm plantations, PKS without plantations usually receive a supply of fresh fruit bunches from the community in the form of cooperatives or individuals. Expansion of oil palm plantations through a grant pattern in Terantang Manuk Village took place in Hamlet III (Plank Base Enclave). The land in this area is customary land for Ulayat Batin Pematran.

Expansion of oil palm plantations in Terantang Manuk also occurs through buying and selling of land. The buyers who are the owners of capital come from outside the village. They buy land in a communal way. The expansion of oil palm plantations on an independent or self-supporting basis was carried out by the local people of Terantang Manuk in the 2000-2009 period after seeing the success of transmigration cultivating oil palm.

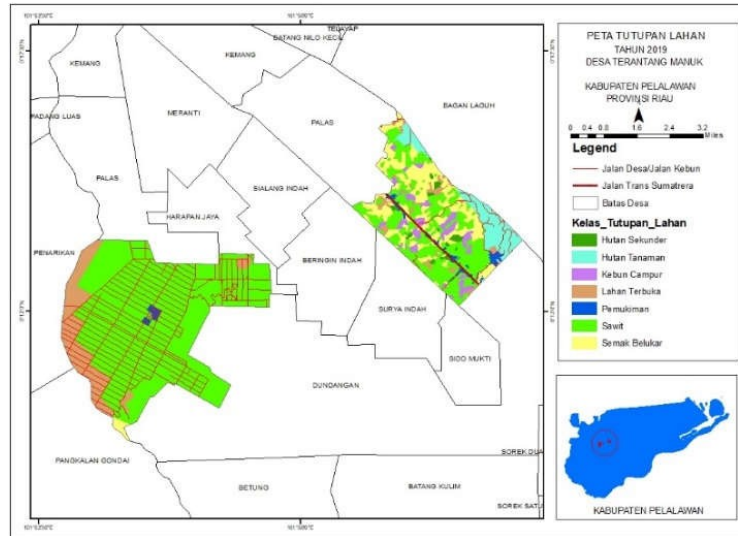
## 2. Land cover change

In this study the method of processing land cover maps using Arc-GIS software through on-screen digitization and visual interpretation of Google Earth Imagery in 2022 was then overlaid with the Indonesian Topographical Map (RBI), maps of land use rights (HGU) and non-HGU and layout maps. Palm Oil Factory. Classification of land cover using (SNI 7645-1 2014).



**Figure 1. Terantang Manuk Village land cover in 1990 (2014 KLHK data)**

The village land cover was barred manuk in 1990 was dominated by land cover in the form of forest and shrubs, where hamlets 1 and 2 were dominated by shrubs, plantation forests and settlements, where hamlets 1 and 2 are the center of settlement and village government, while hamlet 3 (enclave) is a forest which is a former village.



**Figure 2. Terantang Manuk Village land cover in 2022**

Figure 2 shows the land cover of Terantang manuk village after the expansion of oil palm plantations for 29 years, where oil palm dominates the land cover in Terantang manuk village and there has been deforestation in Terantang manuk village which has resulted in a decrease in the quantity of ecological components.

**Table 2  
Land cover class area in 2022**

Land Cover	Area (Ha)	
	2019	2022
Forest	3250	45,14
Mixed Garden	262.9	164,1
Open field	133	572
Settlement	76	108.9
palm	-	3912,9
Shrubs	1785	628.5
HTI	208	283.45

The data source is processed from KEMNHUT 2022 land cover and manual interpretation results on Google Eart imagery.

Table 1 explains that 68% of Terantang Manuk Village's land cover is oil palm plantations with an expansion rate of 134.9 ha/year. Land cover in the form of forest has also experienced deforestation where the forest which was 62% in 1990 decreased to 1% in the form of sialang tree conservation areas which are the nests of sialang honey-producing bees.

### 3. Water availability

Although there has been no scientific study on how much the decrease in water discharge has been felt, the community has felt the impact of the decrease in water discharge, especially during the dry season in Terantang Manuk Village. Community perceptions of water availability due to plantation expansion have a high enough influence where 93% of the community from 30 household respondents have experienced a clean water crisis and experienced a decrease in water quantity and groundwater level, the

community stated their water wells must be dug deeper, whereas wells must be dug at depths above 7m. This statement is in line with (FWI 2007) in (Yani 2011) due to the expansion of oil palm plantations through the conversion of natural forests, it will destroy forest habitats, and change natural forest landscapes, besides that it will damage the condition of watersheds (DAS) located in underneath. Meanwhile, 7% of the community said that the quantity of water and the groundwater level had not changed, this was because the community wells that were not affected by the decrease in the quantity and height of the groundwater level were located in water pockets in the lowlands or valleys in the village of Terantang Manuk. . The change that is most felt is water security, where 100% of the people say that during the dry season well water dries up faster than before the oil palm expansion.

#### 4. Biodiversity

The results of community perceptions regarding the impact of expansion on environmental conditions are presented in table 4. The scope of the diversity of fruit, vegetable, fish and game species in this study was limited to the village area or did not interpret the conditions of other regions. Community perceptions of the impact of the expansion can be seen from changes in environmental conditions that occur, from the total community as many as 30 respondents to the availability of fish from 68 species of fish 79% of the fish population is constant, 19% of the fish population is declining and 2% of the fish population is extinct. Availability of local fruit, from 47 fruit species 53% of fruit species are extinct, 43% of fruit species have decreased and 4% of fruit species remain. Availability of local vegetables and seasonings, from 35 types of local vegetables and seasonings 52% of local vegetable species decreased, 34% of local vegetable species remained, 11% of local vegetable species became extinct and 3% of local vegetable species increased, while from 23 animal species hunting 39% of game species became extinct, 39% of game species decreased, and 13% of game types remained and 9% of game animals increased.

### B. Economic Issues

#### 1. Revenue Structure

The livelihood structure is the composition of the farmer household income from various livelihood activities carried out by all household members within one year.

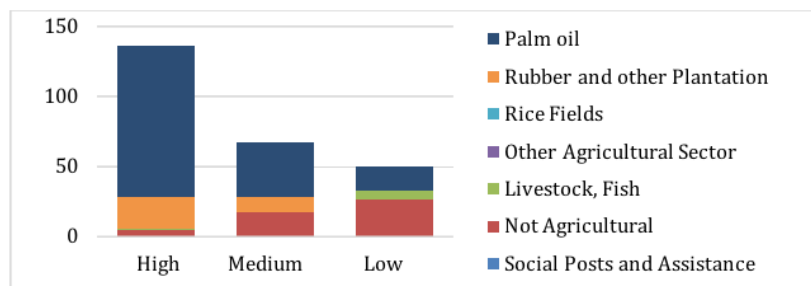


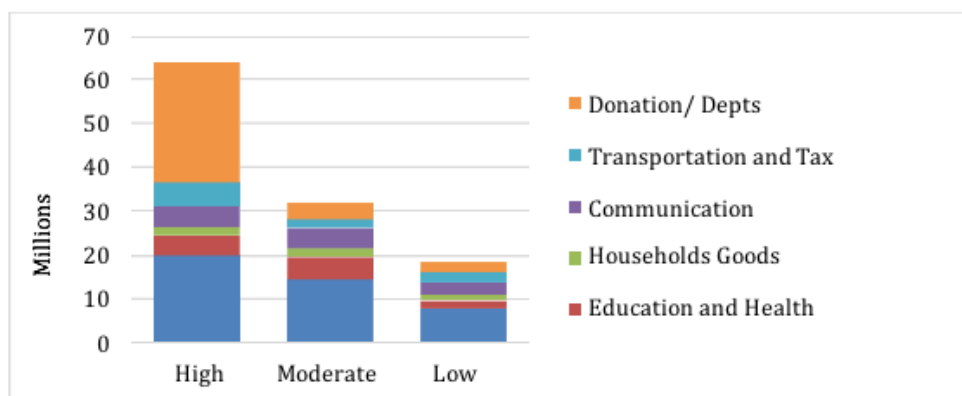
Figure 3. Layer Farmer Household Livelihood Structure (RP/Year)

Of the 30 household respondents, it was shown that the highest income came from oil palm plantations which contributed 64% of total income, non-agriculture 20%, livestock, fish and etc. 13%, and rubber and other plantation crops 3%.

The source of income for the middle and upper layers of independent oil palm smallholders' households in Terantang Manuk Village is dominated by the oil palm plantation sector, around 57.1% of total income for the middle class and 78.3% for the upper class, while households. Most of the lower layer coconut farmers in this village come from businesses in the non-agricultural sector or around 52.8%.

## 2. Expense structure

The high level of dependence of rural communities on oil palm can be seen from the consumption pattern of the community. The community's food needs are no longer obtained from within the village but are imported from outside the village. This means that the village community is no longer independent in food supply.



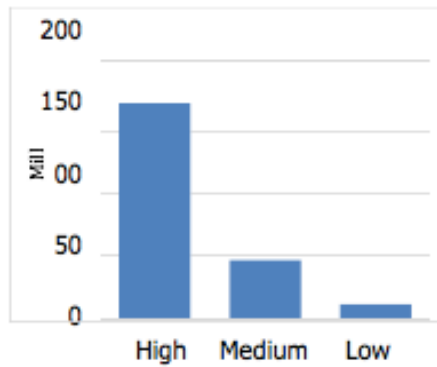
**Figure 4. Structure of Layer Farmer Household Expenditures (RP/Year)**

Of the 30 respondents to farming households, the upper class spent the most on loans, donations or transfers to other parties, while the middle and lower class spent the most on food needs. The average household expenditure of respondents in Terantang Manuk Village is 33.1 million/year or 2.7 million/month when compared to the amount of income they receive 85.7 million/year or 7.1 million/month, this shows that the economic activity of oil palm farmers in Terantang Manuk Village is a surplus.

## 3. Saving Ability

The ability to save (Saving Capacity) is the ability possessed by households to be able to save or save their money. The ability to save is measured by income received per year minus annual household expenses. From these results, if the result of the reduction is large, the level of saving ability owned by the family is high, but if the result is small or minus, then the level of saving ability owned by the family is low.





**Figure 5. Ability to save Layer Farmer Households (RP/Year)**

The level of saving ability was seen according to the level of society in the two villages. There is a delta of income minus expenditure, so the upper stratum of society in Terantang Manuk Village has a fairly high saving ability, while the middle and lower strata have a low level of saving ability. For the upper layer, Terantang Manuk Village is able to save an average of IDR 173,295,875 per year. This figure is quite large compared to the two layers below it. The middle layer of Air Hitam Village still has a saving capacity of IDR 46,708,894 per year. Meanwhile, the lower class of these two villages are only able to save an average of IDR. 11,271,213 per year.

## C. Social Issues

### 1. Changes in Farming Norms

According to customary norms, if a field has been cleared and planted by one of the people, the other community may not clear the area in front or behind the land because it is to anticipate that the cultivator will increase the area of the field (*kapalo padang*). According to customary norms, used fields that have not been cultivated or are no longer planted by the community may be taken over by other communities for planting.

Meanwhile, after the expansion, former fields that were not planted by the parents of one of the people may no longer be planted by another community, this is due to the depletion of available land resources in the village. This change in farming norms has led to land conflicts due to differences in perceptions between people who still adhere to old norms and people who no longer adhere to customary norms.

### 2. Rent-Seeking Practice

The term rent seeking was first introduced by Gordon Tullock in 1967. Through his publication entitled *The Welfare Cost of Tariffs, Monopolies, and Theft*, Gordon Tullock wrote about the relationship between the granting of monopoly rights to entrepreneurs by the authorities. Then, it develops with the explanation that rent seekers are entrepreneurs who get special licenses, by rent recipients to the bureaucracy/government or to individuals in the bureaucracy. The term "Rent Seeking" according to Adam Smith (1981) divides income into three types, profits, wages and rents.

The word rent here is not the same as the meaning of rent explained by Adam Smith. Rent in the sense of Adam Smith is a lease which means obtaining profits from leasing services. Meanwhile, rent-seeking in the study of political economy is hunting for license



facilities, monopoly, or ways trading power for business advantage. They seek profit not through healthy competition.

Michael Ross (2001) divides rent seeking into three types, namely rent creation, rent extraction, and rent seizing. Rent creation refers to conditions where companies seek profits made by the state by bribing politicians and bureaucrats. Rent extraction depicts politicians and bureaucrats seeking profits from companies by threatening companies through regulation. Meanwhile, rent seizing occurs when bureaucrats try to obtain the right to allocate rent generated from institutions country for interest individual/ group.

There are two types of rent-seeking practices that occur in the village of Terantang Manuk, namely rent extraction and rent seizing. The rent seizing practice that occurred in Terantang Manuk Village was not carried out by politicians or bureaucrats but was carried out by young people (grassroots) who had sufficiently high knowledge and education and had considerable influence in the social order of Terantang Manuk Village society, unscrupulous youths used violations or Actions by companies that violate rules or regulations to pressure companies to negotiate. The stages of the activities carried out by these rent seekers are (1) identification of violations committed by the company, (2) research on the issue (3) disseminating the issue of company violations to villagers (4) if the issue has not yet been responded to by the parties companies, rent-seeking actors will spread the issue through local electronic media, (5) carry out demonstrations by mobilizing the masses, (6) When the company has been cornered due to the issue, it is in an effort to secure its position.

In the rent seeking practice, a persuasive approach will be used for key actor companies, one of which is by negotiating or bargaining with these actors which can benefit both parties. Negotiation efforts can be in the form of job bargaining (usually as company public relations), projects related to company activities, cash grants, scholarships and others. The practice of rent extraction was carried out by unscrupulous bureaucrats within the Pelalawan Regency government by taking over the KKPA grant land by the Terantang Manuk Village community for the Pelalawan Regency Government covering an area of 20 hectares, the grant land was issued SKT on behalf of the family of the unscrupulous bureaucrat, this led to protests and demonstrations by new families who did not get KKPA land and youth groups.

### 3. Social conflict

The conflicts that occur are simplified into two, namely conflicts related to land (tenurial conflicts) and non-tenurial conflicts. Tenurial conflicts include conflicts over land boundaries, land ownership, land grabbing, land grabbing, sale and purchase of disputed land, layout and distribution as well as KKPA land rent seeking, issuance of SKGR, and land fires. Meanwhile, non-tenure conflicts are caused by CSR program policies, damage to road infrastructure, pollution of PKS waste, payment of FFB, and others.

**Table 4**  
**Mapping oil palm plantation conflicts based on expansion patterns**

Expansion Pattern	Conflict Object	Conflict Type	Years of Conflict	Information
PIR-Trans pattern	- PT. SBP land boundaries	Tenure conflicts	2019-2022	
	- Struggle for Settlement Areas of Ex SP IV PT. SBP	Tenure conflicts	2020-2022	
	- CSR Policy	Non-tenure conflict	2022	

Expansion Pattern	Conflict Object	Conflict Type	Years of Conflict	Information
KKPA pattern	- Road conflict	Non-tenure conflict	2022	
	- Garden layout	Tenure conflicts	2020-2022	
	- Land compensation	Tenure conflicts	2021-2022	
	- Land distribution	Tenure conflicts	2022	Not finished
	- Land Surrender	Tenure conflicts	2022	Not finished
	- KKPA governance	Non-tenure conflict	2022	Not finished
PKS pattern without garden	- Role of Village Head	Non-tenure conflict	2022	
	- Waste pollution	Non-tenure conflict	2018-2022	
	- Land fires	Tenure conflicts	2022	
The pattern of buying and selling land	- Payment of FFB	Non-tenure conflict	2017-2022	
	- Employee salary arrears	Non-tenure conflict	2022	Not finished
	- Sale and purchase of disputed land	Tenure conflicts	2022	Not finished
	- Issuance of SKGR	Tenure conflicts	2022	Not finished
Grant pattern	- Set boundaries	Tenure conflicts	2022	
Independent pattern	- Encroachment on Company land	Tenure conflicts	2022	Not finished

Table 4 explains that since the expansion of oil palm plantations in Terantang Manuk Village until now it has caused many conflicts, tenure conflicts are conflicts that often occur, some tenure conflicts last for quite a long time, some can be resolved briefly with customary settlements.

#### 4. Changes Conflict resolution

Prior to the expansion of oil palm plantations, the community still adhered to customary norms in resolving conflicts, namely meetings or deliberations by Ninik Mamak. In resolving conflicts in the period 2019 to 2022, some communities are still guided by customary values, namely hearings or deliberations by Ninik Mamak (Customary Elders) in resolving conflicts, the result of customary trials is usually in the form of sanctions for the guilty party, sanctions are usually in the form of fines by slaughtering livestock, starting from the sanction that the lowest is one chicken and the highest is one cow or buffalo. The results of the fine are used to eat together between conflicting parties as a sign that the conflict has ended.

In the 2022 period, the pattern of conflict resolution has changed, the conflict resolution process is still being carried out by the ninik mamak, but in several cases the conflict resolution by the Ninik Mamak does not always satisfy both parties in the conflict so that those who are dissatisfied with customary decisions continue the conflict through lawsuits. In different cases the community no longer uses traditional institutions as a means of conflict resolution but directly uses legal channels to resolve conflicts, the role of the ninik mamak in this case is only to be a witness in the case.

## CONCLUSION

There are 6 patterns of expansion of oil palm plantations in the village of Terantang Manuk. patterns of PIR-Trans, KKPA, PKS without plantations, buying and selling, grants, and self-help or independent. Expansion of oil palm in Terantang Manuk Village for the 2019-2022 period is 3912.9 ha with an expansion rate of 134.9 ha/year, with the majority of land being owned by the private sector at 83%, while smallholder plantation land is only 17%.

The environmental impact caused by the expansion of oil palm is reducing the diversity of fruit, fish, vegetables and game. The community's perception of water availability has also decreased significantly, especially during the dry season.

The economic impact due to the expansion of oil palm plantations is the transformation of the livelihoods of farmer households from field farmers, rubber planters and fishermen to oil palm plantation farmers which then results in the domination of the percentage of their living from the oil palm farming business. The size of land tenure greatly influences the level of community welfare. The social impact due to the expansion of oil palm plantations causes conflicts and shifts in customary norms, values of life and norms in conflict resolution.

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