

## **Study of The Early Social Economic Environment of The Community in The Area of The Pala Plantation Development Plan**

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**Keywords** : Labor Force, Number of Businesses, Income Level.

**Abstract** : *This study aims to determine the initial socio-economic conditions of the community regarding productive age who have not worked, the number of existing businesses and the level of income of local communities in the area of the planned nutmeg plantation development by Kopermas Kami Nassey in Nikiwar District, Teluk Wondama Regency. The research method is a quantitative method and a qualitative descriptive method. The sampling technique used is simple random sampling. Data collection of productive age who has not worked, the number of existing businesses and the level of income of the community is carried out by means of structured interviews based on questionnaires, while employment data is obtained from government documents. The research subjects are community members who live in 5 villages within the boundaries of the study area. The sample of the community as respondents was determined purposively with the proportion of each village being (50%) of the number of households in the village pole. From the 5 study villages, 63 samples were obtained purposively representing the oldest village heads, village heads, religious leaders, community leaders, schoolteachers, youth leaders, and women leaders. The results showed that the total population in the study area amounted to 1069 people. More than 700 people in the study area are of working age population but job opportunities in this area are very limited due to the low level of the real economy sector that can create job opportunities for local communities. The real sector in the form of productive economic enterprises in this region is very low. Sources of income are relatively few and are classified as low or still below the needs of a decent living in West Papua Province.*

### **1 INTRODUCTION**

Every One of the leading sectors in West Papua Province is the nutmeg plantation sector which contributes quite a lot to the regional economy. Even in several regions in Indonesia, such as North Maluku Province, Maluku Province of Aceh, North Sulawesi, and Central Sulawesi, nutmeg is also one of the leading commodities in the area. Nutmeg has been the lifeblood of the community's economy for a long time. The arrival of Europeans in the sixteenth century in Maluku was also motivated by the ambition of power over the spice-producing areas. No wonder, because the price of nutmeg at that time was quite tempting, equivalent to gold. This is a fact, Indonesian spices have triumphed. The control of Indonesian nutmeg in the world market is also quite good. Indonesia is still considered the world's leading producer and exporter of nutmeg seeds and mace with a market share of 75% (Nila Sukma Dewi, 2016). The distinctive aroma and taste of Indonesian nutmeg and its high oil content are the main attraction for foreign markets, especially Europe. Egypt was also interested in Indonesian nutmeg, so it exported 28 tons of nutmeg with a value of 2.4 billion. At the time of the current pandemic, the European Union is one of the regions that is an important trading partner for Indonesia's exports, it is recorded that several countries in this region such as the Netherlands, Spain, Italy, Germany and Belgium have contributed as the largest contributors to Indonesia's plantation commodity exports to the European Union Region. Even though in the midst of a pandemic, exports of plantation commodities, especially spices to the European Union, have contributed enough to contribute to the country's foreign exchange. The Director General of Plantations, Kasdi Subagyo, said in a written statement (8/7/20) that the most dominant plantation commodity exports to the European Union Region were palm oil, followed by cocoa, coconut, coffee, spices (pepper, nutmeg, cloves),.

cinnamon) and rubber. Exports of plantation commodities, especially spices, have the potential to be increased in line with the government's approach in the Indonesia EU CEPA negotiations.

Export performance of Indonesian spices such as pepper, nutmeg and cloves to the European Union has shown positive developments. This can be seen from BPS data processed by the Directorate General of Plantations during the period January to April 2019 compared to 2020 which on average showed positive performance. Pepper exports increased 28% in terms of volume and 12% in terms of export value, nutmeg exports increased 16% in terms of export value and clove exports increased 26% in terms of export volume. Based on the above, Kopermas Kami Nassey is interested in investing in nutmeg plantations. One of the productive locations is located in Nikiwar District, Teluk Wondama Regency, West Papua Province. The planned area for the development of the nutmeg plantation is around 8,099.82 hectares. Within the area there are several villages namely Karui, Werabur, Mamisi, Werianggi, Tamoge and Idoor villages. As a follow-up to the nutmeg plantation plan, Kopermas Kami Nassey conducted an in-depth study in the area. Among these studies is about the socio-economic community spread across several villages. The results of this study are expected to be the basis for follow-up to conduct an in-depth evaluation of the direction and actions of the socio-economic management of the community that must be carried out when nutmeg plantation activities are carried out both at the planning stage, construction stage and operational stage.

The aim of this research is to know the initial socio-economic conditions of the community (productive age who have not worked, the number of existing businesses and the level of community income) in the area of the nutmeg plantation development plan by Kopermas Kami Nassey in Nikiwar District, Teluk Wondama Regency. While the benefits obtained are being able to know about the productive age who has not worked, the number of existing service businesses and the level of community income.

## 2 RESEARCH METHOD

### Research Time and Location

This research was carried out in September - December 2020. The study locations were 6 villages located in the planned area of the nutmeg plantation development plan of Kopermas Kami Nassey. The geographical position of the study location is shown in Table 1.

**Table 1. Village Coordinates**

No	Villages	Geographical Position	
		BT	LS
1.	Werianggi	134, 15895	2,45735
2.	Mamisi	134, 15763	2,31226
3.	Werabur	134, 13048	2,37728
4.	Kurei	134, 13060	2,37471
5.	Tamoge	134, 15451	2,45908
6.	Wamesa II/Idoor	134° 5' 4,212"	2° 26' 10,839"

### Research Parameters

#### Employment Opportunity

To analyse job opportunities, the data collected in the field are population based on age, working population, working age population who have not worked age and type of work. Local residents in Nikiwar looking for work, as well as the number and qualifications of the workforce required by Kopermas Kami-Nassey. Secondary data in the form of labour force participation rates, unemployment, open unemployment was obtained from the official report of the BPS Regency of Teluk Wondama for the last year.

#### Data Collection and Sample Size

Data was collected by means of structured interviews based on questionnaires that had been prepared in advance. In addition to the questionnaire, employment data were obtained from government documents at the district and village levels using the checklist and Teluk Wondama Regency in the last year's publication figures (2018). The research subjects are community members who live in 6 villages within the boundaries of the study area. The sample of respondents was determined purposively with the proportion of each village being (50%) of the number of households in each village.

### Data Analysis Method

Job opportunity analysis is made in 2 models. The first is job opportunities for local communities, the second model is local job opportunities within the scope of West Papua Province. The analytical method used for model 1 is as follows:

Nikiwar Population Employment Opportunity Rate (%)

$$TKK = \left[ \frac{JPK}{JAK} \right] \times 100\%$$

Information:

TP = Employment Opportunity Rate (%)  
 "JPK" = Number of local residents of Nikiwar which work  
 JAK = Number of labor force/ Resident

Nikiwar productive age (soul)

Employment Opportunity Rate (%)

$$X33j = \left( \frac{\sum PYB}{\sum AK} \right) \times 100$$

Information:

X33j = Actual value of opportunity rate work from PB province (%)  
 PYB = Number of working people  
 AK = Number of labor force (people)

### Business Opportunity

#### Data/Parameter Requirements

To analyze business opportunities, data collected in the field are livelihoods, productive economic activities, and types of existing businesses. Data on types of businesses are also obtained from official government reports at the district and village levels.

#### Data Collection and Sample Size

The research subjects were community members who lived in 6 villages, especially business actors at the village level. An example of the community is the respondent determined purposively with the proportion of each village being (50%) of the number of households in each village.

### Data Analysis Method

Analysis of population data will be carried out using quantitative methods (data tabulation) and qualitative descriptive methods.

Business Opportunity (KB)

$$KB = \frac{U_x}{U_p} \times 100\%$$

Information :

KB = Business opportunity (%)  
 U<sub>x</sub> = Number of types of businesses currently run by the community (units),

Up = Number of types of community businesses to supply the needs of cooperatives and/or communities (units).

### Income Increase

#### Data/Parameter Requirements

The data needed include: the source and value of income derived from agricultural production, hunting and gathering, as well as service businesses that generate cash by households in the study area.

#### Data Collection and Sample Size

The research subjects were community members who lived in 6 villages, especially business actors at the village level. An example of the community is the respondent determined purposively with the proportion of each village being (50%) of the number of households in each village.

#### Data Analysis Method

Socio-economic data analysis was carried out using descriptive methods. The formula used to analyze household income, is as below. Household Income (Rp/month)

$$I_{RT} = \text{Tot R} - \text{Tot C}$$

Information:

I RT = Total Household Income (Rp/month)

Tot R = Total household income (Rp/month)

Total C = Total Cost household (Rp/month)

## 3 RESULT AND DISCUSSION

### Overview of Study Locations

The location of the planned site for the development of a nutmeg plantation by Kopermas Kami-Nassey is administratively located in Nikiwar District, Teluk Wondama Regency. Nikiwar District has an area of 476.10 Km<sup>2</sup> which is one of the districts in Teluk Wondama Regency. Nikiwar District has the following boundaries:

To the north : Wamesa District,  
 West : District Indoor District Bintuni Bay  
 To the south : Windesi Distrik District  
 East : Windesi. District

The smallest administrative units included in this district are Werianggi, Mamisi, Werabur, Kurei, and Tamoge villages. These kampongs are residential units that are included in the Nikiwar District area where the community is believed to have socio-cultural and economic interactions with the forest and the resources of the prospective location for the development of nutmeg plantations. Nikiwar District has 5 villages which in general or 80% of the villages are located in valley areas with an average height of 323.75 meters above sea level including Werianggi, Werabur, Kurei, and Tamoge villages. The village which is located quite high above sea level is Kurei Village, while Mamisi is in the coastal area with a height of 2 meters above sea level. Except for Kampung Mamisi, in general the settlement pattern in the villages stretches along the valley with concentrated settlements, concentrated settlements are closely related to the kinship relations of each resident.

### Population Structure

#### a. Population by Gender

There are three other factors that are often included as integral elements of the population system, namely: (1) Population structure, namely: age and sex distribution (2) Population composition, namely the socio-

demographic characteristics of the population with a wide scope, including marital status, income, race, education, occupation, or religion; (3) Population distribution, namely the distribution and location of the population in a certain area (Goldscheider, 1969:102). In relation to the socio-economic impacts of construction and operation of development and nutmeg plantations, the structure and distribution of the population in the study area will be described in this section. The population of Nikiwar District based on the population projection in 2019 is 669 people, consisting of 355 male residents or 53.06% and 314 female residents or 46.93%. Compared to the projected population in 2015, the population of Nikiwar District has decreased by 1.74 percent. Meanwhile, the sex ratio in 2017 was 1.14 male to female population. The complete population structure in the study area by age is presented in Table 2.

**Table 2. Population Structure by Gender**

No	Villages	Resident (People)		Total (People)	Family (KK)	Gender Ratio
		Men	Woman			
Distrik Nikiwar (Teluk Wondama)						
1	Werianggi	95	84	179	59	1.13
2	Mamisi	84	66	150	41	1.27
3	Werabur	97	92	189	56	1.05
4	Kurei	79	72	151	40	1.1
5	Tamoge	0	0	0	0	0
Total Nikiwar		355	314	669	196	4.55
Distrik Wamesa (Teluk Bintuni)						
1	Idoor	211	189	399	79	1.12
Total Wamesa		211	189	400	79	
Total		566	503	1.069	275	1.13

Source: Processed from DDA Nikiwar Kab. TW, 2018 and DDA Wamesa Kab.TB, 2019

The composition of the population based on gender in the 6 (six) villages where the nutmeg plantation is planned is different, but the difference is quite small. Of the total 1,069 residents in the study area, the percentage of the male population is calculated to be 5.89 percent greater than the female population. The total number of households in the six villages is 275 households or an average of 39 households in each village, while the average sex ratio is 1.13. The male population in Kampung Idoor, Wamesa District, was recorded at 211 people (53.06 percent), slightly larger than the female population, which reached 189 people (46.94 percent), while in Nikiwar District there were 355 male residents (52.75 percent, slightly larger than the population). There were 314 women, or 46.94 percent. When this environmental baseline was compiled, the Wondama Bay Regency Central Bureau of Statistics was unable to display population data in Tomage Village, which means that the total population of this village is still recorded in its parent village.

#### b. Population by Education Level

Population grouping based on education level is very important in order to know the progress of human resource development in an area. Data on the education level of the population in the study area can be seen in Table 3.

**Table 3. Population Structure Based on Education Level**

No	Villages	Resident (People)					Total
		TBS*	SD	SLTP	SLTA	S & PS	
Distrik Nikiwar (Teluk Wondama)							

No	Villages	Resident (People)					Total
		TBS*	SD	SLTP	SLTA	S & PS	
1	Werianggi	54	42	37	38	8	179
2	Mamisi	69	54	16	7	4	150
3	Werabur	63	49	39	31	7	189
4	Kurei	71	45	29	5	1	151
5	Tamoge	0	0	0	0	0	0
Total Nikiwar		257	190	121	81	20	669
Distrik Wamesa (Teluk Bintuni)							
6	Idoor	184	132	43	35	6	400
Total Wamesa		184	132	43	35	6	400
Grand Total		441	322	164	116	26	1069

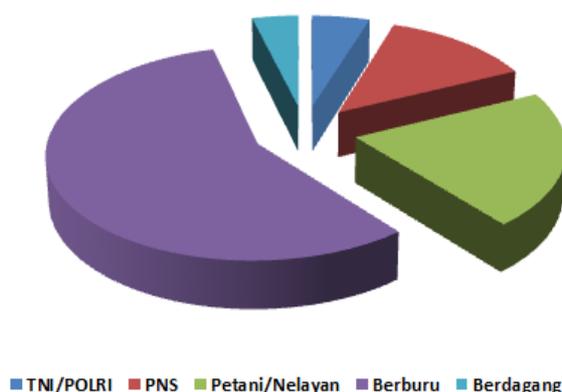
Source: Processed from BPS Wondama Bay Regency, 2018

Note: \*) TBS : No school

The largest percentage of the population in the study area is the group of people who have never received formal education, this number actually includes children under five or not yet in school (41.25 percent) or reaches 441 people. The percentage of the population who only took elementary school education was quite high, namely 30.12% or 322 people. Only 15.34% of the population in the study area had an equivalent high school education and less than 3% were able to obtain undergraduate and postgraduate education. The percentage difference in Nikiwar District and Idoor village in Wamesa District is the same, where these two areas do not have adequate infrastructure.

#### c. Population by Type of Work

The occupations of the population in the study area, the largest percentage are hunter-gatherer communities. Utilization of wood and non-timber forest products is the backbone for the family, which is 57%. The group of people who work as fishermen and farmers in a broad sense is 21%. Trading is only carried out by a few household heads and the number is quite small (4 percent).



**Figure 1. Types of Work Performed by the Community**

Source: Processed from BPS Kab. Wondama Bay and Kab. Bintuni Bay, 2018

*d. Employment and Job Opportunities*

Employment in an area is strongly influenced by the presence of the workforce and the number of people who work. Employment conditions can be observed from the Employment Opportunity Level (TKK), Labor Force Participation Rate (TPAK) and Open Unemployment Rate (TPT). Data and information on labor conditions in each district are not available, but at the district level the 2018 employment data is presented based on the 2019 BPS Publication of Teluk Wondama Regency, which is presented in Table 4.

**Table 4. Employment in Wondama Bay Area in 2018**

Main Activities	Total (People)		Total
	Men	Woman	
Population Age > 15 Years			
a. Workforce	21.543	9.206	30.749
i. Work	20.093	8.833	28.926
ii. Open unemployment	1.450	373	1.823
b. Not the Labor Force	2.731	9.322	12.053
i. School	1.770	2.105	3.875
ii. Managing RT	546	6.987	7.533
iii. Other	415	230	645
Labor Force Participation Rate (%)	88.75	49.69	71.84
Open Unemployment Rate (%)	6.73	4.05	5.39

Source: BPS Wondama Bay Regency, 2019

Employment is one of the government's concerns. Employment has a close relationship with the working age population. The working age population is the population aged 15 years and over. Generally, people with this age range have the ability to work and generate (productive) income. The working age population continues to increase in number from year to year as a result of population growth. An increase in the number of working age population that is not matched by additional employment opportunities or educational fields will cause unemployment.

In 2018, the working age population in Teluk Wondama Regency was 30,749 people, consisting of 21,543 men and 9,206 women. The population of the labor force can be divided into employed and open unemployed. The working population in Teluk Wondama Regency in 2018 amounted to 28,926 people, which was divided into the male workforce of 20,093 people and women of 8,833 people. Open unemployment is calculated at 1,823 people, consisting of 1,450 men and 373 women. The non-labor force population reached 12,053 people (28.15 percent) where the male population was 2,731 people and 9,322 women, this category of non-labor force population included residents who were in school, taking care of the household and other categories. An important note from the non-labor population is that the percentage of women who do not work is quite high, reaching 77.34%.

The Labor Force Participation Rate (TPAK) of Teluk Wondama Regency in 2018 was 71.84%, of which women were 49.69% and men were 88.75%. The high TPAK is partly due to: the presence of investment in the Wondama Bay area such as companies holding HPHs that can absorb workers in various fields of work. In 2018 the Open Unemployment Rate (TPT) of Teluk Wondama Regency reached 5.39 percent, for female TPT (4.05 percent) it was slightly lower than male TPT (6.73 percent). Formally, employment in the local context is defined as the level of employment opportunities at the provincial level. Employment information at the provincial level of West Papua is presented in Table 5. below.

**Table 5. Employment in West Papua Province in 2018**

<b>Workforce</b>	<b>284,406</b>	<b>161,224</b>	<b>445,63</b>
i. Work	264,815	152,729	417,544
ii. Open unemployment	19,591	8,495	28,086

<b>Not the Labor Force</b>	<b>64,499</b>	<b>146,391</b>	<b>210,89</b>
School	38,61	38,712	77,322
Managing RT	14,007	102,414	116,421
Other	11,882	5,265	17,147
<b>Labor Force Participation Rate (%)</b>			<b>06.30</b>
<b>Open Unemployment Rate (%)</b>			<b>06.30</b>

Source: BPS West Papua Province, 2019

The population of the labor force can be divided into employed and open unemployed. Based on the official publication of the Central Statistics Agency of West Papua Province, the working population in West Papua in 2019 was recorded at 445,630 people, which was divided into a working population of 417,544 people and open unemployment of 28,086 people. The non-labor force population reaches 210,890 people, this group consists of schools, taking care of the household, and other categories. An important note from the non-labor force population is that the percentage of women who do not work is quite high, reaching 116,421 people or 55.20 percent.

The Labor Force Participation Rate (TPAK) in West Papua Province in 2019 was 6.30% while the open unemployment rate was 6.30%, this figure is higher than the Labor Force Participation Rate and Open Unemployment Rate of Teluk Wondama Regency which were calculated at 3.21%. Another approach to understanding the employment aspect at the local level is to look at the availability of the productive age population at the local level. In relation to the grouping of the population based on the level of productivity, the Central Bureau of Statistics divides the population into 3 (three) age groups, namely the population aged less than 15 years (young/unproductive age population), the population aged 15-64 years (productive age population) and the population aged 65 years and over (the population of unproductive age). Data and information on the population in the study area by age group are presented in Table 6.

Table 6. Age Group Population Structure

No	Villages	Age Group (People)			Total (People)	Percentage (%)	DR (%)
		<14	15-64	>64			
A	Distrik Nikiwar						
1	Werianggi	32	127	20	179	16.76	40.94
2	Mamisi	22	94	34	150	14.04	59.57
3	Werabur	45	105	39	189	17.70	80.00
4	Kurei	38	96	17	151	14.14	57.29
5	Tamoge	0	0	0	0	0.00	00
B	Distrik Wamesa						
1	Wamesa/Idor	65	279	55	400	37.36	43.01
	Total	202	701	165	1.069	100.00	56.16

Source: Processed from DDA Nikiwar District, Kab. Wondama Bay, and DDA Wamesa District Kab, Bintuni Bay, 2019

Based on official records from the Teluk Wondama Regency Government, the total population in Nikiwar District is 669 people, this number is dominated by the male population group, which is 355 people and the female population is 314 people, while the population of Wamesa District is 400 people. The population is dominated by the productive age group. of 701 people (65.64%) the remaining 367 people or 34.36 percent are people of unproductive age. The population of unproductive age consists of the age group <14 years which totals 201 or 18.91% and the elderly population >64 years with a total of 165 people or 15.45%. The data above indicates that more than 700 people in the study area are of working age population, this illustrates that the workforce in the study area is quite available.

The average dependency ratio in the study village area is quite high, namely 56.16% on average, which means that every 100 people who work have to bear the burden of life + 57 other people). The high level of dependence is partly due to the limited number of job opportunities. The villages in the study area are new administrative areas, some of which are old villages/villages that have divided several other villages. The condition of accessibility and low infrastructure has also led to low employment and business opportunities in the study area. Prior to the operational reform era, several companies holding Forest Tenure Rights had been used by the Wondama community, including community members in Nikiwar, to become workers or to use forest resources to be sold to companies for cash. This condition shows the low employment and business opportunities around the project site plan. Therefore, the development of nutmeg plantations is expected to increase experience in nutmeg farming as well as increase job opportunities and business opportunities in the study area.

## Economic Activities

### *Agricultural Business in a Broad Meaning*

Residential settlements are located in forest areas that are rich in biological resources, both freshwater resources and forest resources. Very large lands have been used by the residents to carry out agricultural activities, however, most of the agricultural activities are shifting cultivation. The type of commodity being cultivated is a horticultural commodity that can be used to meet the consumptive needs of farming families. This shows the high subsistence of the community in the study area. Limited accessibility between villages and between districts, limited economic infrastructure such as markets, and low purchasing power are the determinants of the high subsistence of the Nikiwar people and those who live in the Idoor Wamesa District. To meet household food needs, in addition to buying rice in the Nikiwar District Capital or at stalls/kiosks located in the village, a small number of people do business by planting food crops on dry land (cassava, yams, and bananas), planting vegetables and vegetables (pumpkin, spinach, gedi, and several types of secondary crops) and catch fish in the river. At certain times the community conducts hunting efforts (deer, wild boar, tree kangaroo, wild boar and birds) to meet family needs.

### *Forest Resource Extraction*

The diverse ethnic groups in Papua are spread over four ecological zones, namely: (1) Swampy Areas Ecological Zone, Coastal and River Estuary Areas or Coastal & Riverine, (2) Coastal Lowland Areas Ecological Zone, (3) Ecological Zone Foothills and Small Valleys, and (4) Highlands Ecological Zone. The Papuan people who live in these different mitakat or ecological zones manifest patterns of life that vary to different from one another. As described in the previous section, ecologically, the population in the study area lives in a valley area close to the river and only 1 (one) village is located on the coast. This information is shown in Table 7.

**Table 7. Distribution and Location of Villages in the Study Area**

No	Villages	Height (m)	Village Position	
			Coastal	Mainland
1.	Werianggi	280		√
2.	Mamisi	2	√	
3.	Werabur	366		√
4.	Kurei	369		√
5.	Tamoge	280		√
6	Wamesa II/Idoor	8		√

The natural environment of the Nikiwar region has abundant natural resource potential and it is for this reason that the ancestors of the Nikiwar Tribe who migrated from their original areas settled in Nikiwar. Sago as a staple food is widely available in nature, besides that there are also various commodities that can be exchanged or traded with outside traders such as forest nutmeg, resin/agatis, and gaharu. Fulfillment of animal protein needs is obtained by hunting. Various types of game animals for consumption include wild boar, deer, cassowary and so on. The need for fish can be obtained by fishing in rivers and seas. Because almost all the necessities of life

can be obtained from nature, the pattern of fulfilling daily needs is very extractive. Residents simply pick or take from nature and then consume it. Regarding the use of forest products, information was obtained that from the survey, the Nikiwar people fulfill part of their needs from forest products in the form of fruits for consumption, besides that some non-timber forest products are used as traditional medicines for family members. Understanding of medicinal plants is currently not understood by the younger generation. In addition to forest products as medicines, several types of forest products are used to meet the needs of boards such as several types of trees for firewood, mats and boat-building equipment.

#### *Local Business and Service Business in the Nikiwar Area*

As an area that has relatively limited economic infrastructure, most of the residents of Nikiwar are gatherers. Non-timber forest products and wildlife are important commodities for the community that can meet the subsistence needs of the community. Therefore, the real sector in the form of productive economic enterprises in this area is very low, however, in Tamoge Village, some local communities have utilized the Lawang plant through the extraction of Lawang oil. Lawang oil production has been marketed or is still limited in the capital city of Teluk Wondama and Manokwari Regency. In addition to these types of small businesses, several households have taken advantage of business opportunities by opening grocery kiosks to meet the needs of nine basic commodities that cannot be produced by themselves. The number of grocery kiosks is quite limited, namely  $\pm 6$  kiosks or an average of 2 kiosks in each village. Another service business is sea transportation, namely in Mamisi Village which is located on the coast, but due to the location and aspects of forest ownership and utilization in the concession area, this village is not a study area.

## 4 CONCLUSIONS

Based on the results of the study can be concluded as follows based on the official records of the Teluk Wondama Regency Government, the total population in Nikiwar District is 669 people (male, 355 people and 314 female residents) and Wamesa District 400 people. The existence of the population is dominated by the productive age group of 701 people (65.64%) the remaining 367 people or 34.36% are people of unproductive age. The population of unproductive age consists of the age group <14 years which totals 201 or 18.91% and the elderly population >64 years with a total of 165 people or 15.45%. The data above indicates that more than 700 people in the study area are of working age population. This illustrates that the productive workforce in the study area is quite available but job opportunities in this area are very limited. This is indicated by the low level of real economic sectors in the region that can create job opportunities for local communities. This can be seen from the high subsistence and extraction activities of forest resources in the form of wild animals (pigs and deer) as well as forest products such as gaharu, masoi and bark of Lawang. This picture is information that the quality of the environment in terms of the level of employment opportunities in the study area is low. As an area that has relatively limited economic infrastructure, most of the residents of Nikiwar District are gatherers. Non-timber forest products and wildlife are important commodities for the community to meet the subsistence needs of the community. Therefore, the real sector in the form of productive economic enterprises in this area is very low, some local communities have utilized the Lawang plant through the extraction of Lawang oil. Lawang oil production has been marketed or is still limited in the capital city of Teluk Wondama and Manokwari Regency. In addition to these types of small businesses, several households have taken advantage of business opportunities by opening grocery kiosks to meet the needs of nine basic commodities that cannot be produced by themselves.

The number of grocery kiosks is quite limited, namely 6 stalls. Another service business is sea transportation in the villages of Wamesa and Windesi. The average household income of the study village community comes from hunting deer and pigs of Rp. 2,800,000/month, agarwood and masoi wood Rp. 2,600,000/month, and from agricultural cultivation < Rp. 1.000.000/month. This condition shows that the sources of income are relatively few and are still relatively low or still below the decent living needs in West Papua Province, which is Rp.2,934,500. Based on the results of research that has been done there are several suggestions, namely, in the implementation of the development and operation of nutmeg plantations, it is necessary to consider prioritizing the absorption of local workers. The company should provide opportunities for local communities to be able to provide construction material needs, food needs for workers, and other needs that can be provided by local communities.

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