



Status of Land Tenure and Contribution of Its Utilization to Farmers' Household Incomes in Outskirts Dompu District Forest Area

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Abstract

This study aims to identify the status of land tenure and use by farming households in the outskirts of the forest area and analyze household income from sharing sources and the contribution of agricultural business income to household incomes in the forest area of Dompu Regency. This study uses a descriptive method with the unit of analysis of farmer households in the outskirts of the forest area of Dompu Regency. This sample area was determined by purposive sampling. Determination of the number of respondents is determined by probability sampling with the determination of respondents by Cluster Random Sampling. The results showed that most of the land tenure on the outskirts of the forest area was cultivator, around 85.33% with a land area of 1.79 ha and 1.33% with an area of 0.03 ha on dry land. And paddy fields with tenant owner status are around 45.33% with an area of 0.30 Ha. Meanwhile, in HKM with non-owner cultivator status or about 20.00% with an area of 0.20 Ha. The average area of land controlled by farmers is in the range of > 1.0 Ha as many as 61 respondents. The land use is corn, rice and livestock commodities. Land tenure causes several impacts, both in terms of land that will continue to experience damage and environmental damage such as floods and landslides. And the contribution of agricultural business income to the household income of farmers on the outskirts of the forest area is 61.42%, compared to the contribution of income from outside the agricultural business of 34.55% and other incomes of 4.04%. Thus, it is suggested to the government to increase the extension program on how to cultivate annual crops that can provide maximum production yields and to farmers to plant annual crops of high economic value according to market demand by taking into account the condition of agricultural land and geographical location.

Keywords: Land Tenure; Land Use; Income; Contribution

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INTRODUCTION

West Nusa Tenggara (NTB) is one of the provinces in Indonesia that has potential resources in the agricultural sector (Kirono, et al., 2017; Motimori, et al., 2021). NTB, in 2018 it was recorded that it had a land area of 2,015,358 ha, of which there were 278,099 ha of agricultural land, consisting of 210,755 ha of irrigated land and 67,344 ha of non-irrigated land; while the forest area is recorded to be owned by NTB with an area of 1,071,723 ha (BPS NTB, 2019). Ownership of the area of agricultural land will determine the amount of crop production cultivated (Khorechko, et al., 2019). This means that the amount of production is determined by the area of land used by farmers, the wider the area of land used, the amount of agricultural production increases so that the income of farmers is higher (Adisa & Adekunle). However, the area of agricultural land ownership when compared to the area of forest land is relatively narrow, which is around 25.95 percent compared to the area of forest land owned by NTB. Meanwhile, the number of NTB residents who need agricultural land from year to year tends to increase, namely in 2018 there were 5,013,687 people, increasing to 5,320,092 people in 2020 (BPS NTB 2020). Therefore, it is not surprising that people

living on the outskirts of the forest are trying to encroach on forest land to increase their agricultural land.

Dompu Regency shows that the population has increased every year (Sarjan, et al., 2021). The number of people who continue to grow causes the needs of the community to continue to increase. The increasing need affects the size of the agricultural land cultivated by the Dompu community. The change is in the form of an increasing area of agricultural land, covering an area of 164,793 ha in 2018. The need for agricultural land that continues to increase for land causes land propagation in forest outskirts and forest areas (Hassan, et al., 2016). Where the area of forest land in 2016 was 139,893 ha, which decreased in 2017 to an area of 107,556 ha.

Mudakir (2011) reveals that land tenure status is divided into three parts, namely owner operator, cash tenant and share tenant. Manatar, et al. (2017) states that the status of land tenure that is cultivated or processed in farming can be seen from the way the land is controlled by the owner farmer, the farmer farmer, and the owner farmer. Different land tenure statuses will theoretically determine the level of diversity in farming, which in this case includes different levels of land productivity, income and expenditure (Trukhachev, et al., 2014). Differences in land tenure status will determine farmers' access to capital. Which in turn will affect the production factors used and in the end will affect production. In addition, the level of income and the level of efficiency in their farming will also be different.

Farmers in forest outskirts tend to cultivate corn as the main commodity they cultivate. The amount of corn production in Dompu Regency is 536,578 tons and the area of corn land that continues to grow is 79,696 ha in 2018 (BPS Dompu Regency, 2019) which is where land conversion occurs in forest outskirts and forest areas. In addition, in line with the agricultural development target, the government seeks to advance agricultural development towards a more diverse commodity production structure through food diversification programs. The program aims to reduce the poverty level of the population, the majority of whom live in rural areas and generally work in the agricultural sector. Dompu Regency has eight sub-districts, of which Woja and Manggelewa sub-districts generally control a relatively large area of land with an average of over 1.00 ha. Soekartawi (2002) argues that the area of agricultural land will affect the scale of the business, and this business scale will ultimately affect the efficiency or not of an agricultural business. In addition, farmers are also faced with limited ownership of various resources, such as natural resources (land, water, etc.), human resources (education, skills, etc.), and economic resources (income, capital, and others). This condition will certainly affect the level of income and the ability of farmers to meet the basic needs of their household. As a result of the control and use of land on the outskirts of the forest, it tends to increase the household income of farmers and the level of welfare. Not only has an impact on increasing farmers' household income, land tenure in the area has a negative impact, namely in the form of damage to land fertility due to land burning in forest edge areas which causes floods and landslides that occur almost every year. According to Priyanto and Diwyanto (2014) various obstacles in development efforts and related sectors in border areas include limited infrastructure, both physical and economic infrastructure (markets and marketing institutions), regional biophysical conditions, and minor socio-ethnic frictions. Furthermore, Arida and Sunarta (2017) state that in reality, this productivity occurs due to factors that are difficult for farmers to overcome, such as technology that cannot be transferred and environmental differences (eg climate). Because these two factors are very difficult for farmers to overcome, the difference in yields caused by the second factor causes the productivity gap from experimental results and farming potential. This is often referred to as the "first productivity gap" (yield gap I). Furthermore, it is also known as the "second productivity gap", namely the difference in productivity of a potential farming business from what is produced by farmers.

This study aims to identify the status of land tenure and use by farming households in the outskirts of the forest area and analyze household income from sharing sources and the

contribution of agricultural business income to household incomes in the forest area of Dompu Regency.

METHOD

The method used in this research is a descriptive method with the unit of analysis is the farmer household that controls and utilizes the land in the forest area of Dompu Regency. The types of data used are quantitative data and qualitative data. Quantitative data used is data on farmers' household income and qualitative data used is the reason for pentane to control land in forest edge areas. Types of data based on the source in this study are primary data and secondary data. Data was collected in two ways, namely by survey techniques through direct interviews with data sources for primary data and by desk study for secondary data collection.

This research was conducted in Bakajaya Village, Woja District and Soriutu Village, Manggelewa District, Dompu Regency which was determined by "purposive sampling" on the basis of the consideration that the sub-district has certain criteria, Woja District is close to the city center, the occurrence of an economic center and a lot of transfers occur. the function of forest land to agricultural land or other uses, while the Wanggelewa District is far from the city center and there is a lot of conversion of forest land to agricultural land or other uses. The determination of the number of farmer respondents was determined by 75 respondents by probability sampling and the determination of farmer respondents was determined by Cluster Random Sampling.

Data Analysis

Control and Utilization of Forest Area Peripheral Land

Data was collected using three techniques: (1) direct interviews using a list of prepared questions; (2) recording of data related to research from agencies; (3) observation, namely observing the object of research directly. The data collected was edited and then analyzed using descriptive methods, namely the presentation of analysis through the interpretation of existing data by trying to describe land tenure and land use in forest periphery areas.

Household income and income contribution to the periphery of the forest area

According to Soekartawi (2002), farm income is the difference between the total revenue received from farming results and the total production costs incurred. Mathematically to calculate farm income on the outskirts of the forest area can be formulated as follows:

$$\pi = Y \cdot P_y - \sum X_i P_i \dots \dots \dots (1)$$

Information:

- π = agricultural business income in the outskirts of forest areas (Rp)
- Y = agricultural production in the outskirts of forest areas (Kg)
- P_y = the price of agricultural production in the outskirts of the forest area (Rp/Kg)
- $\sum X_i$ = number of factors of production i ($i = 1,2,3,\dots,n$)
- P_i = the price of the i -th factor of production (Rp)

Household income is divided into 3 (three) sources, namely: (1) income from agriculture; (2) income from outside the agricultural business; and (3) other sources, such as from pensioners, family assistance, government subsidies, rent or for household assets, money interest. Income is obtained by calculating the difference between the total revenue from the business and the total production costs incurred by farmers for one year (Hastuti, et al. 2008).

Farmer household income can be calculated by the following formula:

$$PRT_i = P1 + P2 + P3 \dots\dots\dots (2)$$

Information:

- PRT = household income (Rp/Year)
- P1 = Income from agriculture (Rp/Year)
- P2 = Income from outside of agriculture (Rp/Year)
- P3 = Other sources of income (Rp/Year)

Contribution of business apart from agricultural business there are contributions from outside the agricultural business, as well as other contributions to farmer's household income calculated by the following formula:

$$K_{PRT1} = \frac{PRT1}{\sum PRT_i} \times 100\% \dots\dots\dots (3)$$

Information:

- KPRT1 = Contribution of income from agriculture to farmer's household income (%)
- PRT1 = Income from agriculture (Rp)
- PRT = Total household income (Rp)
- i = Sources of household income to 1,2 and 3 (1= from agriculture; 2=from outside agriculture; 3= other income)

To determine the size of the contribution of income from agricultural businesses to the total household income of farmers, the criteria proposed by Widodo (2001) in (Nurmala, 2020) are as follows:

- If the contribution of income from agriculture is <25% of household income, it is categorized as very low.
- If the contribution of income from agriculture is 25% - 49% of farmer's household income, it is categorized as low.
- If the contribution of income from agriculture is 50% - 75% of farmer's household income, it is categorized as high.
- If the contribution of income from agriculture is >75% of farmer's household income, it is categorized as very high.

RESULTS AND DISCUSSION

Land Tenure and Utilization of Forest Area Periphery

Based on the results of the research, it can be seen that the control and use of land in the outskirts of the forest area of Dompu Regency is the owner of the cultivator with the use of corn plants cultivated on the land. This is driven by the purchase price of corn which is quite high so that many people in the area plant corn, for more details it is described in Table 1 below.

Table 1 Alternative Status of Land Tenure in the Outskirts of the Forest Area of Dompu Regency.

No	Farming Range	Household	Large (Ha)
1.	HKM		
a.	Cultivators are not owners	15	0.20
2.	Outskirts of Forest Area (Tegelan)		
a.	Cultivator Owner	64	1.79
b.	Owner is not a tenant (pawn)	1	0.03
3.	Outside the Outskirts of Forest Areas (Sawah)		
a.	Cultivator Owner	34	0.30

Source: Primary Data Processed in 2022

Table 1 shows that the land tenure status of respondent farmers in the outskirts of the forest area of Dompu Regency is mostly owner of tenants as much as 64 RT or about 85.33% with a land area of 1.79 Ha and one RT or about 1.33% with an area of 0.03 Ha on dry land. And paddy fields with tenant owner status as many as 34 RT around 45.33% with an area of 0.30 Ha. While in HKM there are 15 RTs with the status of non-owner cultivators or about 20.00% with an area of 0.20 Ha. The average area of land controlled by farmers is in the range of > 1.0 ha as many as 61 people. In addition, the size of the land area controlled affects the size of the farmer's income. The large number of land tenures in forest fringe areas and forest areas can cause many impacts if not managed properly which only focuses on the amount of production, this can be seen in Dompu Regency with a critical forest area of 555,427 Ha in 2021. Average damage The forest is in an area with a slope of 45 degrees. This slope is not suitable for planting annual crops. The Dompu community only focuses on the amount of production without looking at the damage to their planted land due to the unbalanced planting of annual and annual crops. As a result, land that continues to be planted with seasonal crops causes land damage and impacts on natural and human areas such as floods every year and landslides in the area.

Table 2. Land Use in the Forest Peripheral Area of Dompu Regency.

No	Range Land Use	Large (Ha)	Household	Percentage (%)
1.	HKM (Tegelan)			
	a. Seasonal crop farming			
	– Corn	0.20	15	20.00
2.	Outskirts of Forest Area (Tegelan)			
	a. Corn Farming	1.79	64	85.33
	b. Cattle	0.54	23	30.67
3.	Outside the Outskirts of Forest Areas (Ricefield)			
	a. Paddy	0.30	34	45.33
	b. Corn	0.30	34	45.33

Source: Primary Data Processed in 2022

Based on Table 2, it shows that from 100% of respondents, the most widely planted commodity by farmers is corn as much as 20% in forest areas, 85% in forest periphery areas and 45% outside forest periphery areas. Where the plant is a favorite plant because it is easy to cultivate, the price is quite expensive and it is always needed to meet the needs of the corn factory as animal feed, food needs, and others. In addition, the cropping pattern carried out by farmers was once in forest areas and forest edges and twice in areas outside the forest edges. From the data above, it shows that people in the outskirts of the forest area do not only cultivate corn but also cultivate rice in paddy fields with a percentage of 45.33% of the total respondents. As well as livestock business carried out by respondents with a percentage of 30.67%, cattle business carried out by the community tends to release livestock directly without handling or providing livestock cages so that the handling costs are expanded slightly. Utilization of land in the outskirts of the forest which is only focused on by farmers, namely corn plants without paying attention to the natural environment which is increasingly experiencing land damage. This should be an effort or firm sanction by the government to improve farmers' crop patterns in terms of planting any commodity (Nuccio, et al., 2018). The government should provide counseling on how to cultivate not only annual crops but annual plants that produce maximum profits for farmers and pay attention to land conditions and geographical location (Flood, 2010).

Income from Agriculture

Income from agriculture is the difference between farm income and production costs, which can indicate the level of profit obtained from farming in the periphery of the forest area. The average income obtained by farmers from agricultural business in the research area on an area of 2.01 hectares is Rp. 84,814,867/year with production costs of Rp. 21,864,271/year. The agricultural business profit obtained by the respondent farmers is Rp. 62,950,596/year with an R/C ratio/year of 7.14 which indicates that the agricultural business carried out by the respondent farmers is profitable and feasible because the R/C value is more than 1.

Income from Outside of Agriculture

The majority of the people in the study area are corn and rice farmers, but not a few of them also have other businesses to supplement their household income (Mango, et al., 2018). Other businesses undertaken include traders, breeders. And income from salaries and wages such as civil servants (PNS), honorary wages, farm laborers, construction workers and others. The income obtained by farmers from non-agricultural products in the research area is Rp. 35,407,733/year or 34.55 percent. of the total household income.

Other Income

The household income of farmers in the forest outskirts of Dompu Regency, among others, is other income obtained from pension funds, family assistance, government subsidies, rent or for household assets, money interest. The average household income of farmers from other factors per year is IDR 4,138,133/year or 4.04 percent of the total household income. The contribution of other incomes is not large enough to meet the needs of farmer households, and is less able to increase the assets of farmers to maintain their survival.

Household Income

Farmers' household income sources are obtained from agricultural businesses, excluding agricultural businesses and other sources, both property income and income transfer, such as from pensions, family assistance, government subsidies, rent or for household assets, money interest. Farmers' household income sources from agriculture gave the largest contribution (61.42 percent) compared to other sources of income (outside agriculture and other sources). This fact shows that farmers in the outskirts of forest areas still rely on agriculture as their main source of income in the midst of shifting labor from the agricultural sector to other sectors. This means that the economic transformation in rural areas still places the agricultural sector as a sector that plays an important role in meeting the needs of life. The average annual income of a farmer's household and its contribution is presented in Table 3.

The average household income of farmers in the outskirts of the forest area of Dompu Regency is Rp. 102,496.462/year. Each activity contributes differently to the total household income. Farmer household income sourced from agricultural business activities amounted to Rp. 62,950,596/year (61.42 percent), income from outside the agricultural business was Rp. 35,407,733/year (34.55 percent) and other income was Rp. 4,138,133 per year. years (4.04 percent).

Table 3. Sources of Farmer Household Income in the Outskirts of the Forest Area of Dompu Regency

No	Source of Household Income	Income (Rp/Year)	Contribution (%)
1	Income from Agriculture Usaha	62.950.596	61.42
2	Income from Outside of Agriculture	35.407.733	34.55

No	Source of Household Income	Income (Rp/Year)	Contribution (%)
4	Income from Others	4.138.133	4.04
	Amount	102.496.462	100.00

Source: primary data after being processed in 2022

Based on the results of this study, it can be concluded that in order to fulfill their daily needs, farmers in Dompu Regency carry out business on the use of land on the outskirts of the forest area, businesses other than the business of using land on the outskirts of the forest area, salaries or wages and other sources. Farmers carry out business other than the use of land on the outskirts of the forest area, salary or wages and other sources to be able to meet their needs when the farming they are trying to do has not yet produced (not yet harvested). The business of using land on the outskirts of the forest area has the largest contribution to income (61.42 percent) with the high category according to Widodo (2001), this income has been able to meet the needs of farmers' living. This is in line with Janjua & Kamal (2011) which states that increasing income can reduce the number of poor people because with increased income people can meet their needs, so that people's welfare increases and the number of poor people decreases.

CONCLUSION

Based on the results of research and discussion, it can be concluded that (1) the status of land tenure and use of respondent farmers in the outskirts of the forest area of Dompu Regency is mostly owner of tenants as much as 64 RT or about 85.33% with a land area of 1.79 Ha and one RT or about 1.33% with an area of 0.03 Ha on dry land. And paddy fields with tenant owner status as many as 34 RT around 45.33% with an area of 0.30 Ha. While in HKM there are 15 RTs with the status of non-owner cultivators or about 20.00% with an area of 0.20 Ha. The average area of land controlled by farmers is in the range of > 1.0 ha as many as 61 people. The land use is corn, rice and livestock commodities; (2) the source of household income for farmers in the forest area of Dompu Regency is the highest income obtained from agricultural businesses, amounting to Rp. 62,950,596/year with a percentage of 61.42% in the high category. Followed by income from outside the agricultural business of IDR 35,407,733/year or 34.55% in the low category and the lowest income is obtained from other factors of IDR 4,138,133/year with a contribution percentage of 4.04% in the very low category.

RECOMMENDATION

The government must increase the extension program on how to cultivate seasonal crops that can provide maximum production results and for farmers to plant annual crops that are economically feasible according to market demand by taking into account the condition of agricultural land and geographical location.

REFERENCES

- Adisa, R. S., & Adekunle, O. A. (2010). Farmer-herdsmen conflicts: A factor analysis of socio-economic conflict variables among arable crop farmers in North Central Nigeria. *Journal of human ecology*, 30(1), 1-9.
- Arida, N. S. N. S., & Sunarta, N. (2017). Pariwisata berkelanjutan. *Pariwisata Berkelanjutan*. Badan Pusat Statistik. (2019). Kabupaten Dompu Dalam Angka. BPS. Mataram.
- Badan Pusat Statistik. (2019). Provinsi Nusa Tenggara Barat Dalam Angka. BPS. Mataram.
- Badan Pusat Statistik. (2020). Provinsi Nusa Tenggara Barat Dalam Angka. BPS. Mataram.
- Flood, J. (2010). The importance of plant health to food security. *Food security*, 2(3), 215-231.

- Hassan, Z., Shabbir, R., Ahmad, S. S., Malik, A. H., Aziz, N., Butt, A., & Erum, S. (2016). Dynamics of land use and land cover change (LULCC) using geospatial techniques: a case study of Islamabad Pakistan. *SpringerPlus*, 5(1), 1-11.
- Janjua, P. Z., & Kamal, U. A. (2011). The role of education and income in poverty alleviation: A cross-country analysis. *The Lahore Journal of Economics*, 16(1), 143-172.
- Khorechko, I. V., Rogatnev, Y. M., Veselova, M. N., Filippova, T. A., & Kotsur, E. V. (2019). Environmental and economic problems related to rationalizing the use of agricultural lands in the Irtysh land. *GEOMATE Journal*, 17(61), 248-256.
- Kirono, D. G., Butler, J. R., McGregor, J. L., Ripaldi, A., Katzfey, J., & Nguyen, K. (2016). Historical and future seasonal rainfall variability in Nusa Tenggara Barat Province, Indonesia: Implications for the agriculture and water sectors. *Climate Risk Management*, 12, 45-58.
- Manatar, M. P., Laoh, E. H., & Mandei, J. R. (2017). Pengaruh status penguasaan lahan terhadap pendapatan petani padi di Desa Tumani, Kecamatan Maesaan, kabupaten Minahasa Selatan. *AGRI-SOSIOEKONOMI*, 13(1), 55-64.
- Mango, N., Makate, C., Tamene, L., Mponela, P., & Ndengu, G. (2018). Adoption of small-scale irrigation farming as a climate-smart agriculture practice and its influence on household income in the Chinyanja Triangle, Southern Africa. *Land*, 7(2), 49.
- Motimori, A. R., Dahlanuddin, D., & Soekardono, S. (2021, November). Establishment of Ruminant Feed Mill in West Nusa Tenggara: Challenges and Opportunities. In *International Seminar on Livestock Production and Veterinary Technology* (p. 55).
- Mudakir, B. (2011). Produktivitas lahan dan distribusi pendapatan berdasarkan status penguasaan lahan pada usahatani padi (kasus di Kabupaten Kendal Propinsi Jawa Tengah). *Jurnal Dinamika Ekonomi Pembangunan*, 1(1), 74-83.
- Nuccio, M. L., Paul, M., Bate, N. J., Cohn, J., & Cutler, S. R. (2018). Where are the drought tolerant crops? An assessment of more than two decades of plant biotechnology effort in crop improvement. *Plant science*, 273, 110-119.
- Nurmala, N., & Asse, M. (2020). Analisis Kontribusi Pendapatan Usahatani Cengkeh Terhadap Pendapatan Rumah Tangga Tani Di Desa Duinggis Kecamatan Dako Pemear Kabupaten Tolitoli (Studi Kasus Pada Kelompok Tani Mekar 2). *Jurnal Agrotech*, 10(1), 9-14.
- Purwandari, H. (2011). Respon petani atas kemiskinan struktural (kasus Desa Perkebunan dan Desa Hutan). *JSEP (Journal of Social and Agricultural Economics)*, 5(2), 24-37.
- Sarjan, M., Muchlis, M., & Muthahanas, I. (2021). The Diversity of Major Insect Pests at Sugarcane Development Center In Dompu Distrcit, West Nusa Tenggara. *Journal of Science and Science Education*, 2(1), 38-46.
- Soekartawi. (2002). *Prinsip Dasar Ekonomi Pertanian*. Jakarta: PT Raja Grafindo.
- Trukhachev, V., Ivolga, A., & Lescheva, M. (2014). Enhancement of land tenure relations as a factor of sustainable agricultural development: Case of Stavropol Krai, Russia. *Sustainability*, 7(1), 164-179.