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Economic Valuation of The Sesaot Community Forest Area in West Lombok Regency

By
Moh. Huzaini*), Akhmad Jufri, Satarudin, Putu Karismawan
Economics and Business Faculty, Mataram University
*)Corresponding Author : moh.huzaini@unram.ac.id

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ABSTRACT: The study aimed to analyze the value of the total economy and to identify the factors that influence the Willingness to pay for the existence of the Sesaot community forest area. This research employs descriptive statistics and multiple regression. Besides this research sets 135 respondents in the Sesaot Community Forest Area of West Lombok Regency. The sampling method is purposive sampling. The findings reveal that the total economic value of the Sesaot Community Forest Area in West Lombok Regency is IDR 4,528,501,000 per year. Income has a positive and significant impact on Willingness to pay, while the profession has a negative and significant impact The researcher suggests to the next researcher to broaden the scope of research (benefits of oxygen, carbon, water management, erosion control) so that a more significant amount of community forest area can be economically valued.

Keywords: Economic valuation, Sesaot Community Forest, West Lombok Regency.

ABSTRAK: *Penelitian bertujuan untuk menganalisis nilai total ekonomi dan mengidentifikasi faktor-faktor yang mempengaruhi Kesediaan Membayar Keberadaan Kawasan Hutan Kemasyarakatan Sesaot. Penelitian ini menggunakan statistik deskriptif dan regresi berganda. Selain itu, penelitian ini menetapkan 135 responden di Kawasan Hutan Rakyat Sesaot Kabupaten Lombok Barat. Metode pengambilan sampel adalah purposive sampling. Hasil temuan mengungkapkan bahwa total nilai ekonomi Kawasan Hutan Rakyat Sesaot di Kabupaten Lombok Barat adalah Rp 4.528.501.000 per tahun. Pendapatan berpengaruh positif dan signifikan terhadap Willingness to pay, sedangkan profesi berpengaruh negatif dan signifikan. Peneliti menyarankan kepada peneliti berikutnya untuk memperluas cakupan penelitian (manfaat oksigen, karbon, pengelolaan air, pengendalian erosi) sehingga kawasan hutan rakyat yang lebih signifikan dapat bernilai ekonomi.*

Kata Kunci: *Hutan Kemasyarakatan Sesaot, Valuasi ekonomi, Kabupaten Lombok Barat.*

INTRODUCTION

Forest resources have high economic, ecological, and social values (Alam & Hajawa, 2007). One function of the forest is as an oxygen producer (Gomes et al., 2023; Halim & Anggraini, 2022; Syihabuddin et al., 2020), forest as a carbon absorber (Rahmawaty et al., 2021; Saleh et al., 2012; Valade et al., 2017), erosion prevention regulators of water management (Bozali, 2020; Fekadu et al., 2022), maintaining ecological balance (Anjali et al., 2020; Sanjaya, 2021), protecting biodiversity (Law et al., 2021; Magnago et al., 2015), and controlling climate change (Dooley & Ozinga, 2011; Jones et al., 2022).

Ecological issues affect many people worldwide, such as flooding, erosions, and climate change (Sanjaya, 2021; Syihabuddin et al., 2020). Negligence, human domination of nature, and irregular environmental management make all elements of harmony and things that grow naturally into disasters (Qur'an, 2018). The perspective of economics, which is reductionism and fragmented in the utilization of natural resources (always paying attention to the economic aspect without paying attention to other elements) coupled with an anthropocentrism perspective, which places humans as the center of the universe, has had an impact on the exploitation and destruction of natural resources (Keraf, 2010). Humans' exploitation of natural resources that exceeds the threshold for their regeneration ability has also impacted an ecological crisis (Cholili, 2016). Another cause is the assumption that religion and the environment are separate things. Even though there is a very close relationship between religion and the environment, religion influences human behavior towards perceptions and behavior in protecting and preserving the surrounding environment (Safrilsyah, 2014). An increase in population can also directly impact the need for space, land, and the availability of natural resources (Andriansyah et al., 2021). This condition can then cause pressure on the carrying capacity and capacity of the environment (Katili, 2020; Zhang et al., 2020).

Forest resources are an essential environmental component for the life of humans and living things (Munadi Radhie dan Kaslam, 2020; Singh et al., 2021; Steenberg et al., 2017). Forests are an integral and inseparable part of the lives of those around them (Darmansyah & Erwiantono, 2018; Haryanto & Tarina, 2020). Indonesia is one of the countries with natural resources in the form of the most extensive tropical forests in the world (Simau et al., 2020; Yulian et al., 2011). The Central Statistics Agency (BPS) records that Indonesia's forest area was 125.82 million hectares in 2020.

The reduction in forest area worldwide (both caused by forest fires, land conversion, and illegal logging activities) has impacted global warming. Namely the occurrence of an increase in the average temperature of the atmosphere, sea, and land on Earth caused by human activities, especially the burning of fossil fuels (coal, oil, and natural gas), known as greenhouse gases (Pratama & Parinduri, 2019; Rahmadania, 2022). The implications of the description above have appeared in the form of global climate change, such as floods, droughts, landslides, storms, food shortages, and changes in employment and economic structure, which can threaten human life and other living things.

Various measurable and non-measurable benefits from forest resources are still undervalued, causing over-exploitation. This is because many parties still do not understand the value of the multiple benefits of forest resources in a comprehensive manner. Evaluating all the benefits generated is necessary to understand the benefits of forest resources. Knowing the help of these forest resources can be used as a recommendation for policymakers to allocate increasingly scarce forest resources and carry out a fair distribution of benefits. Thus causing the need to improve the management of forest resources through an accurate assessment of the total economic value of forest resources. Recognizing the importance of forest areas for humans and other living things, research activities are needed that aim to identify and analyze the magnitude of the total economic value of the Sesaot community forest area and the factors that influence the Willingness to pay for the conservation of the site. This study contributes to the literature by highlighting the dual role of community forest areas as a source of community income and adaptation to climate change.

METHODS

Data

The data analysis method used in this research is quantitative analysis. In contrast, the analysis tool in this study uses a cross-section data analysis model. The dependent variable used in this study is Willingness to Pay, while the independent variables are total income, number of dependents, age, level of Education, and profession.

Willingness to Pay (WTP) is the level or amount of Willingness to be paid by respondents to conserve forest areas expressed in units of rupiah (IDR). Income is the total of the respondent's income in one month, described in rupiah per month (IDR/month). The number of family dependents is all people who are dependents in the family expressed by the person. Age is the unit used in calculating an individual's age described in years. Education is the level of formal Education that the respondent has expressed in years. Farmers and traders are a type of livelihood for respondents to earn income in this study.

An Econometric Technique

In terms of analysis, this study uses cross-sectional data analysis, and the analytical tool uses multiple linear regression with the equation:

$Yi = \alpha_0 + \beta 1X1i + \beta 2X2i + \beta 3X3i + \beta 4X4i + \beta 5X5i + \ldots\ldots \beta nXni + ui$

Information :

Yi = Willingness to pay (WTP)

α_0 = Constant

$\beta 1, \ldots, \beta 5$ = Regression Coefficient

$X1$ = Income

$X2$ = Number of Family Dependents

$X3$ = Age

$X4$ = Education Level

$X5$ = Profession

$X5D1$= Farmer

$X5D2$= Trader

Total Economic Valuation Analysis.

The total economic value of the Sesaot community forest area to be studied is formulated as follows (Turner et al.,2001):

$$TEV = UV + NUV + EV$$

Where:

TEV = Total Economic Value

UV = Use Value (direct use value)

NUV= Non-Use Value (indirect use value)

EV = Existence Value

Direct Use Value

Direct benefit value results from utilization directly from the Sesaot community forest area. The equation can calculate the value of immediate benefits:

$$DUV = DUV1 + DUV2 + DUV3.$$

Where:

DUV = Direct Use Value;

DUV1= daily/weekly benefit;

DUV2 = Monthly Benefits;

DUV3 = Annual Benefits.

Indirect Use Value

Indirect benefits are the value of benefits from the Sesaot community forest area utilized indirectly by the community. In this research, the indirect benefits are windbreakers (obtained from the replacement cost estimation approach) and the income the community gets from tourism activities

$$IUV = IUV1 + IUV2$$

Where:
IUV = Indirect Use Value
IUV1 = Indirect use value of windbreaker
IUV2 = Indirect use value from tourism activities.

Benefits of Existence

The benefits of existence, or what is often referred to as the benefits of reality, are the types of gifts that the community feels from the ecosystem of the Sesaot community forest area. The value of the Sesaot community forest area is measured by the Willingness to pay the community for its existence of the Sesaot community forest area.

RESULTS AND DISCUSSIONS

Geographic Condition

The location of the Sesaot Community Forest in the Sesaot Protection Forest which has been licensed in the form of a 185 Ha Forest Utilization Business Permit (IUPHKm), with the Decree of the Minister of Forestry of the Republic of Indonesia No. 445/Menhut-II/2009 dated 4 August 2009 and carried out by the Mitra Sesaot Forest Preservation Community Group (KMPH). The administrative area is spread over 5 (five) villages: Sesaot Village, Lembah Sempage Village, Pakuan Village, Sedau Village, and Buwun Sejati Village, West Lombok Regency.

The geographical conditions of the villages directly adjacent to the Sesaot Protection Forest are generally relatively similar because they are in the same area with landscape conditions ranging from flat to hilly. The intensity of rain is almost throughout the year, with uneven distribution. The air temperature ranges from 18-31o at an altitude of 300-600M above sea level (Shavira et al., 2020). Judging from the area of arable land managed by each member of the group: for Sesaot Village, it ranges from 15-25 Are/Head of Family, and for Sedau, Lebah Sempage, and Pakuan Villages, it ranges from 25-40 Are/Head of Family. The types of plants planted include (multi-purpose tree species=MPTS): Durian, rambutan, avocado, mangosteen, colouring, candlenut, cacao, and papaya. As for the type of wood: Albasia/peacock and Rajumas. Besides MPTS and timber, the farmers also plant empon-empon (turmeric, Laotian, Cladi, elephant grass, vanilla, etc.).

Demographic Conditions

Based on survey and observation results, information was obtained that there were 5 (five) villages directly adjacent to the Sesaot Community Forest Area, namely Sesaot Village, Lebah Sempage Village, Pakuan Village, Sedau Village, and Buwun Sejati Village. The total population of the five villages is up to. In 2023 there are 23,112 people, 11,786 male and 11,326 female residents, with 7,678 household heads. For details, see the table 1:

Table 1. Number of Villagers Directly Bordering the Sesaot Community Forest Area in 2023

No.	Name Village	Total population			Amount KK	percentage
		Male	Female	Total		
1.	Sesaot	3,030	3,023	6,053	1,986	25.87
2.	Lebah Sempage	2,466	2,275	4,721	1,552	20.21
3.	Pakuan	1,536	1,580	3,116	1,103	14.37
4.	Sedau	2,588	2,465	5,053	1,728	22.50
5.	Buwun Sejati	2,166	1,983	4,149	1,309	17.05
	Total	11,786	11,326	23,112	7,678	100.00

Data Source: BPS of Narmada District (2023).

Characteristics of Respondents

Respondent Age

Age level is a factor that can show a person's productivity because the age factor is usually directly proportional to a person's physical ability and mental-spiritual health to carry out an activity. For details, see the table 2.

Table 2. Number of Respondents broken down by age in the Sesaot Community Forest Area in 2023

No.	Age (Year)	Number of Respondents	Percentage (%)
1.	25-29	4	2.96
2.	30-34	7	5.19
3.	35-39	23	17.03
4.	40-44	24	17.78
5.	45-49	24	17.78
6.	50-54	17	12.59
7.	> 55	36	26.67
	Total	135	100.00

Data Source: Primary Data Processed.

The table above shows that the age group above 55 dominates the respondents, namely 36 people or 26.67% of all respondents. The high number of respondents who are over 55 years of age will have an impact on work productivity and will ultimately affect the income received.

Income

The respondents' income levels in the study locations ranged from IDR 500,000 to IDR 2,500,000 monthly. Most respondents have an income of less than IDR 1,000,000, i.e., 89 respondents or 65.92% (32 respondents have income between IDR 500,000 - IDR 749,000 or 23.70% and 57 respondents have income between IDR 750,000 - IDR 999,000 or 42.22%). Meanwhile, 26 respondents had income ≥ IDR 1,500,000 or 19.27%. This indicates that the average income of the respondents is low, unable to meet the needs of a decent life when it comes to the number of dependents in the family, which on average is three people. Two things cause respondents' low income level; first, for those who sell (tourism), most tourists bring provisions from home, or in other words, they do not spend their money optimally at tourist locations. Second, farmers are still not optimally utilizing the Community Forest area due to the low level of Education (Table 5) and because they are elderly (Table 3).

Table 3. Number of Respondents broken down by income level in the Sesaot Community Forest Areain 2023

No.	Total Income (IDR)	Number of Respondents	Percentage (%)
1.	500,000 - 749,000	32	23.70
2.	750,000 - 999,000	57	42.22
3.	1,000,000 - 1,500,000	20	14.81
4.	1,500,100 - 2,000,000	16	11.85
4.	> 2,000,000	10	7.42
	Total	135	100.00

Data Source: Primary Data Processed.

The number of dependents

The number of family dependents is the number of family members financed by the head of the family who lives under one roof, consisting of a wife, husband, parents' children, grandchildren, parents-in-law, daughter-in-law, maids, etc. To find out more clearly about the number of respondents broken down by the number of dependents can be seen in Table 4:

Table 4. Number of Respondents broken down by the number of dependents in 2023

No.	Number of Dependents (people)	Number of Respondents	Percentage
1.	1	4	2.96
2.	2	43	31.85
3.	3	68	50.37
4.	4	16	11.86
	5	4	2.96
	TOTAL	135	100.00

Data Source: Primary Data Processed.

Table 4 shows that the number of dependents in the respondent's family ranges from 1 to 5. From this range, families with as many as 3 (three) family dependents occupy the highest rank, namely 68 respondents or 50.37 % of all respondents. The second order is a family with two dependents, 45 respondents or 31.85 %. The rest are respondents with one person and five dependents, four people or 2.96 %.

Level of Education.

Education level is one of the factors that has quite an influence on the direct use of the Sesaot community forest area. Besides that, the group Education is quite influential in understanding the benefits of forests for human life and other living creatures and the Willingness to pay for the sustainability of these forest resources. Find out more clearly about the number of respondents broken down by level of Education can be seen in the table below.

Table 5. Number of Respondents broken down by educational level in 2023

No.	Educational level	Number of Respondents	Percentage
1.	Not Completed Elementary School	19	14.07
2.	Elementary school	61	45.19
3.	Junior high school	30	22.22
4.	Senior High School	20	14.81
5	Bachelor	5	3.71
	Total	135	100.00

Data Source: Primary Data Processed.

From Table 5, respondents with education levels up to graduating from elementary school occupy the highest rank, namely 80 respondents or 59.26 %. The following sequence is respondents with junior and senior high school education levels, respectively 30 and 20 respondents or 22.22 and 14.81 % of the total respondents. Meanwhile, there are only five people who have GRADUATE levels. The low level of Education possessed will affect the mindset and ability to accept changes and technological developments. The low level of Education will also influence the creativity of respondents, ultimately impacting the income received. *Profession*

Based on the characteristics of the work, there are only two types of work in the research location: people who work as farmers managing community forests and people who sell in forest areas that are used as tourism areas.

The composition is 100 people who work as farmers, or 74.07 %, and those who work as traders, as many as 35 people, or 25.93 %. The details can be seen in the following table:

Table 6. Number of Respondents broken down by profession in 2023.

No.	P r o f e s s I o n	Number of Respondents	Percentage
1.	Farmer	100	74.07
2.	Traders	35	25.93
	Total	135	100.00

Data Source: Primary Data Processed.

Economic Value of Sesaot Community Forest Utilization.

Direct Use of Land

Based on the results of observations and the effects of primary data processing obtained from interviews and filling out a list of questions, it can be identified that the direct benefit is the use of the land that has been managed so far, which has been planted with MPTS (multi-purpose tree species/plant of life) species, such as Durian, Avocado, Mangosteen, candlenut, cocoa, banana, jackfruit. Apart from MPTS plants, there are intercrops such as vanilla, ginger, turmeric, taro, and elephant grass. In comparison, the types of wood are Peacock, Rajumas, Sengon, etc. The managed community forest land area varies from 0.15 Ha to 0.40 Ha. Their income generally comes from fruits produced once a year, and some are made monthly, such as bananas, taro, galangal, turmeric, and others.

Table 7. Direct Benefits of the Sesaot Community Forest Area in 2023

No.	**Total Income (IDR)**	**Number of respondents**	**Σ Income /month (IDR)**	**Σ Income /year (IDR)**
1.	500,000 -749,000	32	19,680,000	236,160,000
2.	750,000 – 999,000	57	46,800.000	561,600,000
3.	1,000,000– 1,500,000	29	21,990.000	263,880,000
4.	1,500,100- 2,000,000	16	28,050,000	336,600,000
5.	> 2,000,000	10	22,400,000	268,800,000
	Total	135	138,920,000	1,667,030,000

Source: Primary data processed.

Direct Utilization of Water

In addition to direct benefits from managing the Sesaot community forest area, the community also benefits from water taken directly from the forest area by making water storage tanks independently. From the storage tanks, they will be distributed to members of the community. The community uses water for domestic needs such as bathing, washing, drinking, cooking, etc. The magnitude of this water requirement refers to the provisions (UNESCO, 2002), which is 60 litres/per capita/day. In this study, the technique for calculating water demand is to use the approach of the number of dependents of the respondent's family multiplied by the price of water per m3 applicable at the local Regional Water Company. It is assumed that if the price of water per m3 for households in rural areas is Rp. 10,000 per m3, a water benefit value of IDR 58,296,000 per year will be obtained. This amount is limited to the number of people who are used as respondents or samples. To find out more clearly about the value of the benefits of water received by respondents, it can be seen in the table below:

Table 8. Direct Benefits of Clean Water by Respondents in 2023.

No.	**The number of dependents**	**The number of respondents**	**60 Liters/day person**	**One year use**	**value (IDR)**
1.	1	4	480	172,800	1,728,000
2.	2	43	5,160	1,857,600	18,576,000
3.	3	68	8,160	2,935,200	29,352,000
4.	4	16	1,920	691,200	6,912,000
5.	5	4	480	172,800	1,728,000
	Total	135		5,829,600	58,296,000

Source: Primary data processed

Indirect Utilization

Windbreaker.

Direct benefits from the ecosystem of the Sesaot community forest area as a windbreaker or barrier are obtained from the replacement cost estimation approach.

The assumption is that if the existence of the Sesaot Community Forest area is eliminated, respondents will have potential losses due to damage to their poverty. To find out more clearly about the function of the community forest area as a windbreaker with an estimated loss of IDR 2,240,000,000.

Table 9. Table of Indirect Benefits of Windbreakers

No.	Loss (IDR)	The number of respondents	Total Loss./IDR/Year
1.	7,500,000	4	30,000,000
2.	10,000,000	42	420,000,000
3.	15,000,000	45	675,000,000
4.	20,000,000	16	320,000,000
5.	25,000,000	12	300,000,000
6.	30,000,000	13	390,000,000
7.	35,000,000	3	105,000,000
Jumlah		135	2,240,000,000

Data Source: Data Primary Processed.

Tourism Benefits

The value of indirect benefits from the existence of the Sesaot Community Forest area (HKm Sesaot) is the benefits of tourism activities. The benefits are from the community's income that sells around the Sesaot Community Forest area. Respondents' income ranged from IDR 500,000 – IDR 2,000,000 per month. To find out the amount of income of respondents from selling activities in the Sesaot Community Forest area can be seen in the table below:

Table 10. Indirect Benefits from Tourism Activities

No.	Total Income (IDR)	The number of respondents	Σ Income /month (IDR)	Σ Income /year (IDR)
1.	500,000 -749,000	1	600,000	6,600,000
2.	750,000 – 999,000	14	11,930,000	131,230,000
3.	1,000,000 - 1,500,000	7	7,215,000	79,365,000
4	> Rp. 1,500,000	13	25,300,000	278,300,000
Jumlah		35		495,495,000

Data Source: Primary Data Processed.

Based on the table above, the number of respondents who used the Sesaot community forest area as a selling opportunity as a tourism value was 35 out of 135 respondents. From the table above, it can be seen that respondents with income between IDR 500,000 – and IDR 999,000 - rank the most, namely 15 people. The following sequence is respondents with income above IDR 1,500,000 - as many as 13 respondents, while respondents with income between IDR 1,000,000 – IDR 1,500,000 - is as many as seven people. The income from selling opportunities in community forest areas as a tourism value is IDR 495,495,000, - per year.

Value of the Benefits of Existence (Existence Value)

The value of the existence of the Sesaot Community Forest area in this study was obtained by seeking or asking the Willingness to pay the respondents for the presence of the Sesaot community forest area ecosystem. In this study, it was hypothesized that the community was invited to be willing to pay a certain amount of money to maintain the ecosystem of the community forest area to ensure the site would remain sustainable.

The technique used to calculate the Willingness to pay is to use the CVM (contingent valuation method) technique. From these calculations, the magnitude of the benefits of the existence of the Sesaot community forest area ecosystem was found. The importance value of the presence of the Sesaot community forest area ecosystem is IDR67,680,000,- per year. To find out more clearly about the value of the ecosystem of the Sesaot community forest area, see the table below:

Table 11. The Value of the Existence of the Sesaot Community Forest Area in 2023.

No.	WTP (IDR)	The number of respondents	Amount of WTP/IDR/Month	Amount of WTP/IDR/year
1.	20,000	2	40,000	480,000
2.	25,000	12	300,000	3,600,000
3.	30,000	38	1,140,000	13,680,000
4.	35,000	11	385,000	4,620,000
5.	40,000	31	1,240,000	14,880,000
6.	50,000	14	700,000	8,400,000
7.	60,000	12	720,000	8,640,000
8.	70,000	6	420,000	5,040,000
9.	80,000	9	720,000	8,640,000
Total		135	5,640,000	67,680,000

Data Source: Primary Data Processed.

Total Economic Value of the Sesaot Community Forest Area

The Sesaot community forest area has several direct, indirect, and existing benefits. Immediate benefits include benefits from area utilization activities for MPTS plants (multi-purpose tree species/plants of life) and the benefits of clean water. Indirect benefits from the function of the forest as a windbreaker with the cost and benefits approach of tourism. Another benefit is community forest areas obtained from the Willingness to pay (WTP). To find out more clearly about the magnitude of the total economic value of the Sesaot community forest area, it can be seen in the table below:

Table 12. Total Economic Value of the Sesaot Community Forest Area in 2023 (IDR)

No.	Benefit type	Activity	Benefit value
1.	Direct Use	Farming	1,667,030,000
		Benefits of water	58,296,000
	Total Direct Use		1,725,326,000
2.	*in-direct use*	Windbreaker	2,240,000,000
		taourism	495,495,000
	Total *in-direct use*		2,735,495,000
3.	*existence Value*	Existence Value	67,680,000
	Total Economic Value		4,528,501,000

Source: Primary data processed.

Table 12 shows that the total economic value of the Sesaot community forest area is IDR 4,528,501,000 per year, consisting of direct benefits of IDR 1,725,326,000 per year, consisting of immediate benefits of IDR 1,725,326,000 per year, indirect benefits of IDR 2,735,495,000 per year and existence benefits of IDR 67,680,000 per year. The total economic value of the Sesaot community forest area indicates that the people who live in 5 (five) villages directly adjacent to the Sesaot community forest area have realized that if damage occurs to the forest area ecosystem, it will affect the level of income received and will also ultimately affect their level of well-being.

Determinant Factors of Willingness to Pay

The valuation contingency analysis aims to determine the factors that influence the sustainability of the Sesaot community forest area. Descriptively, respondents' perceptions of the existence of the Sesaot community forest area and the economic benefits that have been felt so far will be explored. Multiple linear analysis determines the factors that influence the Willingness to pay.

Multiple linear analysis is used to determine the direction of the relationship between the independent variables and the dependent variable, to determine whether each independent variable is positively or negatively related, and to predict the value of the dependent variable if the value of the

independent variable increases or decreases. The variables studied in this study were the variable income level of the respondent, the number of family dependents, age, education level, and the respondent's profession.

Regression Test

Table 13. Regression Results

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	65896.558	9967.118		6.611	.000
	Income	.011	.002	.355	4.654	.000
	dependents	-841.845	1366.727	-.044	-.616	.539
	Age	-150.484	121.674	-.107	-1.237	.218
	Education	824.238	1204.180	.054	.684	.495
	Profession	-22421.355	2927.243	-.632	-7.660	.000

The results of statistical tests in Table 13 show that the variables income bill and profession have a significant effect on the dependent variable. In contrast, the variables of the number of dependents, age, and Education have an impact but are not substantial on the dependent variable.

$$Yi = 65896.558 + 0.011X1i - 841.845X2i - 150.484X3i + 824.238X4i - 22421.355X5i$$

Information:
Yi = Willingness to pay (WTP)
$X1$ = Income
$X2$ = Number of Family Dependents
$X3$ = Age
$X4$ = Education Level
$X5$ = Profession

The regression equation above shows that there is a constant value of 65896.558. This means that if the dependent variable is considered non-existent or fixed, the Willingness to pay is 65896.558. In addition to the multiple linear regression equation above, there are positive and negative independent variable regression coefficient values. The positive coefficient value of X means that if there is a change in variable X, it will cause a change in the same direction as variable Y. Meanwhile, the negative value of the X coefficient means that if there is a change in the X variable, it will be followed by a difference in the Y variable in the opposite direction—the Effect of Income on Willingness to Pay.

The value of the regression coefficient income is 0.011, which means that if there is an increase in revenue by one unit (rupiah), it will affect the Willingness to pay Rp. 11, assuming other variables are considered fixed.

The Effect of Dependents on Willingness to Pay

The value of the total dependents regression coefficient is -841,845, which means that if there is an increase in the number of dependents by one unit (person), it will affect the decrease in Willingness to pay Rp. Eight hundred forty-one thousand eight hundred forty-five, assuming other variables are considered fixed.

The Effect of Age on Willingness to Pay

The magnitude of the value of the regression coefficient age is -150,484, which means that if there is an increase in age by one unit (year), it will affect the decrease in Willingness to pay Rp. Assuming other variables are considered fixed, one hundred fifty thousand four hundred eighty-four.

The Effect of Education on Willingness to Pay

The value of the education regression coefficient is 824,238, which means that if Education is increased by one unit (year), it will affect the increase in Willingness to pay Rp. Eight hundred twenty-four thousand two hundred thirty-eight, assuming other variables are considered fixed. The Effect of Profession on Willingness to Pay The value of the profession regression coefficient is -22421.355, which means that if there is a change of profession, it will affect the decrease in Willingness to pay IDR. Two hundred twenty-four thousand two hundred thirteen, assuming other variables are considered fixed.*Simultaneous Hypothesis Test (Test F)*

Based on the data results on the simultaneous test (Test F) above, the calculated f value is 13,778 at a significant level of 0,000. With a degree of freedom of 0.05. Because (0.00 < 0.005), age, income, Education, number of dependents, and profession jointly or simultaneously significantly affect the Willingness to Pay for conserving the Sesaot community forest area.

Coefficient of Determination

The coefficient of determination is used to assess the goodness of fit of the regression by considering the value of R2. The value of the coefficient of determination is between 0 and 1. The value of R2, which is close to 1, indicates that the dependent variable's ability to explain the dependent variable is improving and vice versa. The magnitude of the coefficient of determination or R2 is 0.325, which means that the variation in the independent variables can explain the variation in the dependent variable by 32.5%. Meanwhile, 67.5% is influenced or explained by other variables not included in the model.

DISCUSSION

The total economic value of the Sesaot Community Forest Area of West Lombok Regency is IDR 4,528,501,000 per year. This value is obtained from the sum of the direct benefits/benefits of IDR 1,725,326,000 per year originating from MPTS (multi-purpose tree species/plants of life) farming activities of IDR 1,667,030,000, and the benefits of water (domestic integrity) are IDR 58,296,000. The indirect use value of IDR 2,735,495,000 consists of windbreaker benefits of IDR 2,240,000,000 and tourism benefits of IDR 495,495,000 annually. The use value/benefit of existence is IDR 67,680,000 per year, obtained from the public's Willingness to pay. The total economic value above is smaller when compared to the results of research (Katili, 2020) of IDR 49,472,312,843,648 per year; research results (Saragih et al., 2020) of IDR 27,233,693,270 per year; research results (Yulian et al., 2011) of IDR 141,390,367,264,492 per year.

The low total economic value of the Sesaot community forest area in West Lombok Regency is caused by several things. First, most respondents are in the age range that is no longer productive (50+ years), namely as many as 53 out of 135 respondents, or 39.26 %. This will impact low work productivity, ultimately affecting the low income received (see Table 2). Second, the low level of Education of the respondents, namely as many as 80 respondents or 59.26 % of all respondents have an education level up to elementary school. The low level of Education possessed will affect the mindset and ability to accept changes and technological developments. The low level of Education will also affect the creativity of respondents, ultimately impacting the income received (see table %). Third, the narrowness of the respondent's arable land (ranging from 0.16 ha – 0.40 ha) will impact the low income derived from MPTS = multi-purpose tree species. Fourth, the low income of respondents from tourism activities because visitors do not spend their money optimally at tourist locations. This will have an impact on the low-income received by respondents.

CONCLUSIONS

The study aimed to analyze the value of the total economy and to identify the factors that influence the Willingness to pay for the existence of the Sesaot community forest area. The Sesaot Community Forest Area (HKm Sesaot) West Lombok Regency's total economic value is IDR 4,528,501,000 annually.

The income has a positive and significant impact on Willingness to pay, while the profession has a negative and significant impact. While dependents and age have a negative but insignificant effect on Willingness to Pay, Education has a positive but insignificant effect on Willingness to Pay.

1) The results of this research can be used as input for policymakers and the community to maintain, preserve and increase land productivity from the existence of the Sesaot community forest area as a source of income for communities around the forest area and a source of water (for domestic needs, irrigation and industry) for residents of Mataram City, West Lombok Regency, and Central Lombok Regency. The researcher suggests to the next researcher to broaden the scope of research (benefits of oxygen, carbon absorber, water management, erosion control) so that a more significant amount of community forest area can be economically valued

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