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## **ECO TOURISM DEVELOPMENT STRATEGY IN SEMARANG CITY (CASE OF MANGROVE TUGUREJO ECOTOURISM)**

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### **ABSTRACT**

*This study aims to design an ecotourism development strategy and calculate its economic value. The research method used is a "mixed method" approach, where the qualitative approach is obtained from in-depth interviews with parties involved in the development and management of the Tugurejo mangrove forest conservation which is processed using the NVivo application, while the quantitative approach is processed using the analysis of the contingent assessment method (CVM) and willingness to pay (WTP). The results of the study show that the role and involvement of youth is very important in the preservation of Ecotourism Areas. Conservation is needed in the sustainable development of Ecotourism Areas with the role and involvement of youth. The average amount of WTP is Rp. 10.000.00. The economic value of income for one year is estimated to generate an income of Rp. 280,000,000.00 with a ticket of Rp. 5,000 (including parking).*

**Keywords:** Conservation, Ecotourism, Mangrove, Tugurejo Semarang, Youth.

### **ABSTRAK**

Penelitian ini bertujuan untuk merancang strategi pengembangan ekowisata dan menghitung nilai ekonominya. Metode penelitian yang digunakan adalah pendekatan "mixed method", dimana pendekatan kualitatif diperoleh dari wawancara mendalam dengan pihak-pihak yang terlibat dalam pengembangan dan pengelolaan konservasi hutan mangrove Tugurejo yang diolah menggunakan aplikasi NVivo, sedangkan pendekatan kuantitatif diolah menggunakan analisis metode penilaian kontingen (CVM) dan kesediaan membayar (WTP). Hasil penelitian menunjukkan peran dan keterlibatan pemuda sangat penting dalam pelestarian Kawasan Ekowisata. Konservasi dibutuhkan dalam pengembangan Kawasan Ekowisata yang berkelanjutan dengan peran dan keterlibatan pemuda. Besaran rata-rata WTP adalah Rp. 10.000.00. Nilai ekonomi dari pendapatan selama satu tahun diperkirakan menghasilkan pendapatan sebesar Rp. 280.000.000,00 dengan tiket Rp. 5.000 (termasuk parkir).

**Kata Kunci:** Ekowisata, Konservasi, Mangrove, Pemuda, Tugurejo Semarang



## **Introduction**

The percentage of damaged mangrove in the north coast of Central Java is high, which is 96.5% (consisting of 62.5% severely damaged and 32.0% lightly damaged). Only 3 percent of mangroves are not damaged (Puryono, 2009). This decrease has an impact on the decrease in fish catch in coastal areas. Onrizal & Kusmana (2008) stated that the quantity and quality of mangrove has an impact on the intrusion of seawater that juts into the mainland, decreased catches and the development of malaria and other diseases.

Mangrove has many benefits, many products and services that can be produced from mangrove areas, such as mangrove trees for firewood, charcoal, paper, rayon as well as for tourist areas (Andrianto et al., 2016; Harahap, 2010). Where mangroves as a protected area and buffer system of life, tourism and energy sources. Also, the great potential can increase the income of the surrounding community, reduce the miscarriage, improve the welfare and sustainability of the ecosystem.

Another benefit of mangroves is one of the global warming saver. Mangrove trees are able to absorb carbon dioxide and convert it into organic carbon in the form of biomass (Sutaryo, 2009), in addition mangrove areas can be used for tourism. The tourism developed can be in the form of sustainable educational tourism. The management of this tourist area can be managed by the community, so as to raise the welfare of the local community. Mangrove ecotourism development efforts are inseparable from the concept of sustainable development.

Sustainable development (SD) has become a popular slogan in contemporary development discourse. However, despite the breadth and great popularity it has accumulated over the years, the concept still seems unclear as many people keep asking about its meaning and history, such as what it takes and implies for development theory and practice. Sustainable development has become a key word in development discourse, which has been associated with different definitions, meanings and interpretations. Literally, SD means "development that can be continued indefinitely or for a certain period of time (Stoddart, 2011). Structurally, the concept can be seen as a phrase consisting of two words, "sustainable" and "development." Just as each of the two words combined to form the SD concept is "sustainable" and "development", defined in various ways perspective. The concept of SD has also been viewed from various angles, leading to a large number of concept definitions. Although definitions abound with respect to SD, the most commonly cited definition of this concept is the one proposed by the Brundtland Commission Report (Schaefer & Crane, 2005). The report defines SD as a development that meets the needs of today's generation without sacrificing the ability of future generations to meet their own needs.

The concept of sustainability seems continue to influence discourse on the future of development science and implies that the best choice tends to remain an option that meets the needs of the community and is environmentally friendly and economically viable, economically and socially fair and socially and environmentally decent. This leads to three interconnected areas or domains of sustainability that describe the relationship between environmental, economic, and social aspects.

Ecotourism is a tourism where people enjoy various types of biodiversity without damaging it. This tourism is synonymous with educational activities, research and so on (Tri, 2007). According to Haryati et al. (2016), ecotourism is a form of tourist trip to the area that is done by converting the environment and preserving the lives and welfare of the local people. Ecotourism was originally done by nature lovers who want the natural tourism area to be intact maintained and sustainable.

Mangrove forest is one form that can be used as an ecotourism. Mangrove forests are specific plant areas that grow and develop on the coast. It grows in tropical and sub-tropical areas in tidal area conditions with anaerobic soil. Mangroves are also defined as forests that grow on alluvial mud in coastal areas and river estuaries, and their existence is always influenced by the tides of the sea (Luom et al., 2021).

The characteristic of mangrove forest is forest that is not affected by tides, climate, market land or clay and inundated with sea water and has no strata header and height reaches 30 meters (Gilani et al., 2021). Its spread and zoning depend on a variety of environmental factors.

Irwanto (2006) stated that mangrove forest ecosystem is a system in nature where life takes place and reflects the reciprocal relationship between living things and their environment. Among living things itself, it is found in coastal areas, which are affected by the tides of the sea, and are dominated by a typical species of tree or shrub and capable to grow in salty or brackish waters.

Damanik & Weber (2006) concluded that natural tourism does not take into account the presence of tourists, the economic impact of local communities, but rather emphasizes the conversion of natural resources and the environment. So in ecotourism, emphasizes are more on environmental sustainability, as stated by The International Ecotourism Society that ecotourism is a journey that has responsibility for the sustainability of the natural environment and maintain the welfare of local people.

Ecotourism development efforts can take place and run well when the required planning and policy in accordance with the principles of ecotourism are fulfilled (Iwan, 2011). There are three strategies of ecotourism development principles, namely:

1. Conservation Principle, that ecotourism development should be able to maintain, protect, and or contribute in improving the environment and natural resources.
2. Principle of Participation, where community participation is required through meetings and discussions with local community deliberations and approvals, with empathy and respect for the values of tradition, culture and religion in the community.
3. Economic Principles, in the sense that the development of ecotourism should provide great benefits for local community, and is able to be a driver of the local economy. Without eminence of contradictions between development and the needs of natural sustainability, or in other words the balance of development between environmental sustainability and economic interests

Besides, it needs principles that reflect:

1. The Principle of Education, where in the implementation of ecotourism development does not abandon the principle of education that is able to change the behavior and attitudes of the community to be care and responsible with a commitment to the sustainability of the environment and local culture.
2. Tourism Principles, in the sense of being able to provide satisfaction of tourists and experiences to tourists as a sustainable ecotourism business.

The theoretical benefits of this research are expected to provide additional insight into knowledge about economic valuation and can be used as a concept in the development of mangrove forest ecotourism in Semarang City.

The managerial benefits of this research for the Semarang City Government are expected to be taken into consideration for decision making for the Semarang City government in developing mangrove forest ecotourism in Semarang City by involving the participation of youth elements. For mangrove forest managers, this research is expected to be used as information regarding the design of strategies for development in the management of mangrove forest conservation in Semarang City. Provide positive contributions for Semarang City government managers and the community to involve youth participation in mangrove forest conservation. Provide consideration for non-governmental organizations and the private sector who want to be involved in the conservation of mangrove forests in the city of Semarang.

In addition to the general public, this research can be considered in designing the development of mangrove forest conservation management in Semarang City and is expected to provide benefits and an overview for the community regarding youth participation in mangrove forest conservation in Semarang City.

## Method

The approach in this study is to use mixed methods where qualitative and quantitative methods occur. Qualitative research taken from in depth interview with informant from academic Dr. Rudhi Pribadi, Ph.D, he is a lecturer of Undip at the Faculty of Fisheries and Marine Sciences, from businesses Tourism Conscious Group (*Pokdarwis*), from the government, namely the Semarang City Environment Office, from the community namely mangrove ecosystem study group Teluk Awur (KeSEMaT) where the data is analyzed using qualitative analysis tool software Nvivo. Nvivo is an application program that can organize and analyze data in the form of text, code text, define sub-theme and themes based on text data, analyze text content with text search, quickly know the main words that often appear in the data through word frequency queries (Bandur, 2019). While quantitative research is obtained by calculating economic valuation through contingent valuation method (CVM) analysis. Fauzi (2004, 2006) stated that one of the tools to calculate economic value is CVM analysis. The results of these two approaches will be combined in the concurrent mix method approach.

Obtained data related to WTP is determined by purposive sampling method. Sample requirements are:

- a. People who domiciled in Tugu Subdistrict
- b. They have visited Mangrove Tapak Ecotourism Area

Respondents taken as many as 100 respondents are people domiciled in Tugu Subdistrict who represents families who have visited mangrove ecotourism (with population of 9054 families). Determination of the number of respondents is determined using the Slovin Formula.

Slovin Formula:

$$n = \frac{N}{1 + Ne^2} \dots \dots \dots (1)$$

Description:

n : minimum number of samples

N : total samples in population

e : error tolerance limit (error)

In using the Slovin formula, the researcher uses an error tolerance limit of 10%. Thus, the minimum number of samples can be known from

$$n=9054/(1+9054 \times (0,1)^2) \dots \dots \dots (2)$$

$$n=98,9$$

The result of Slovin Formula is 98,9 and rounded up to 100 respondents. In addition, this study uses the assumption that each head of family is represented by one person. Respondents from the head of family were used to analyze paying ability of the families to replant mangroves and ecotourism development. Ecotourism area is managed by the community, so that if the mangrove condition is improved, whether the community has a willingness to pay.

Table 1 shows that there are 3 scenarios offered to respondents with willingness to pay Rp.5.000,00, Rp.6.000,00 and Rp.12.000,00 per year.

**Table 1 Conservation Scenarios**

Scenario I	Scenario II	Scenario III
Planting 500 mangrove seedlings	Planting 750 mangrove seedlings	Planting 1250 mangrove seedlings
Maintenance 5 years	Maintenance 5 years Breeding 250 seedlings	Maintenance 5 years Breeding 250 seedlings Ecotourism Development
WTP Rp. 5.000,00 per year	WTP Rp. 6.000,00 per year	WTP Rp. 12.000,00 per year

Source: Primary Data Processed, 2020

## Result and Discussion

**Table 2 Socio-Economic Characteristics of Respondents**

	Description	Frequency	Percentage (%)
<b>Gender</b>	man	41	41.00
	woman	59	59.00
<b>Age (Years)</b>	11 – 20	14	14.00
	21 – 30	41	41.00
	31 – 40	21	21.00
	41 – 50	17	17.00
	51 – 60	7	7.00
<b>Marital Status</b>	Married	27	27.00
	Unmarried	72	72.00
	Widow/Doubt	1	1.00
<b>Education Level</b>	Finished elementary school	1	1.00
	End of SMP	10	10.00
	High school graduation	50	50.00
	D3/S1	35	35.00
	S2/S3	4	4.00
<b>Number of Family Members (Number of Children)</b>	Not Yet Family	72	72.00
	1 - 2	8	8.00
	3 - 4	9	9.00
	5 - 6	6	6.00
	>6	5	5.00
	Rp 500.000,- - Rp 1.000.000,-	33	33.00

	Description	Frequency	Percentage (%)
<b>Income Level</b>	Rp 1.100.000,- - Rp 2.000.000,-	14	14.00
	Rp 2.100.000,- - Rp 3.000.000,-	11	11.00
	Rp 3.100.000,- - Rp 4.000.000,-	14	14.00
	Rp 4.100.000,- - Rp 5.000.000,-	10	10.00
	> Rp 5.000.000,-	18	18.00

Source: Data processing, 2021

Socio-economic characteristics of respondents from the Tugurejo community, Semarang can be explained by gender, where the dominance of respondents is more women compared to men, which is 41 people (41.00%) and the rest are 59 women (59.00%) of the total respondents. Profession respondents have professions as fishermen, students, tourists, community residents local, tour guides, cultivators, and government employees.

The age of the respondents in this study, including varied, ranged between the ages of 19 up to 59 years with a composition of 14 people or 14.00% of the total respondents aged 11 to 20 years, then there were 41 people (41.00%) have the age of 21 to 30 years. While respondents with age 31 to 40 years there are 21 people (21.00%) and age 41 to 50 years there are 4 people (17.00%) over 50 years there are 7 people (7.00%). In detail can be seen in Table 2.

The composition of the marital status of the respondents is 27 respondents have married status or 27.00% of the total respondents, while 72 respondents or 72.00% of the total respondents, have status not yet married and 1 respondent has a widow status or 1.00% of the total respondents.

For the education level of the respondents in this study, the majority were dominated by by respondents who have education or are still undergoing education Diploma/bachelor strata tertiary institutions are 35 people or 35.00% of the total existing respondents, the rest are respondents with a graduate-level of education 10 students (10.00%), high school graduates recorded 50 people (50.00%) and with a postgraduate strata tertiary education, namely 4 people or 4.00% of the total respondents.

The income level of respondents in this study also varied, because of different backgrounds of respondents, the majority of respondents income amounting to Rp.500,000.00 - Rp.1.000.000.000,00 recorded at 33 people (33,00%) while respondents earning more than Rp.5,000,000.00 were recorded at 18 people (18.0%) in detail can be seen in table 3. Judging from the status of respondents, most (72.00%) are not married, then the rest are respondents who are married but do not have child.

Table 3 shows the respondent's perceptions of the condition of mangrove ecotourism. Respondents perception of mangrove ecotourism conditions includes (a) Ease of reaching

the location, (b) Provision of Recreational Facilities, (c) Provision of Public Facilities, (d) Tourism Objects Security, (e) Friendliness of officers (*Pokdarwis*); (f) Ease of Obtaining Information, (g) Mangrove Conditions and (h) Environmental Hygiene. The perception of these respondents is very necessary to help the efforts of the development strategy of Tapak Area mangrove ecotourism.

In relation to the provision of existing facilities in recreational areas, respondents stated that they were adequate, which was around 36.00%, while those who stated that they were less adequate is recorded as 42.00% inadequate as much as 17.00% and very adequate 5.00%. This is because the Mangrove Tread Ecotourism area is not yet available growing, the tourists who are there are mostly for fishing activities, so that the facilities provided are only boats, either to go to the fishing area or tour around the mangrove forest.

**Table 3 Respondent's Perception of Mangrove Ecotourism**

Perception of	Description	Freq.	%
<b>Ease of Reaching The Location</b>	Inadequate	8	8,00
	Inadequate	30	30,00
	Adequate	45	45,00
	Very Adequate	17	17,00
<b>Provision of Recreational Facilities</b>	Inadequate	17	17,00
	Inadequate	42	42,00
	Adequate	36	36,00
	Very Adequate	5	5,00
<b>Provision of Public Facilities</b>	Inadequate	18	18,00
	Inadequate	57	57,00
	Adequate	22	22,00
	Very Adequate	3	3,00
<b>Tourism Object Security</b>	Not Safe	3	3,00
	Less Secure	13	13,00
	Safe	77	77,00
	Very Safe	7	7,00
<b>Friendliness of Officer</b>	Unfriendly	2	2,00
	Less Friendly	11	11,00
	Friendly	77	77,00
	Very Friendly	10	10,00
<b>Ease of Obtaining Information</b>	Very Difficult	7	7,00
	Difficult	20	20,00
	Easy	66	66,00
	Very Easy	7	7,00
<b>Mangrove Conditions</b>	Bad	2	2,00
	Less Good	24	24,00
	Good	57	57,00
	Excellent	17	17,00
<b>Environmental Hygiene</b>	Bad	13	13,00
	Less Good	37	37,00
	Good	49	49,00
	Excellent	1	1,00

Source: Data Processing, 2021



Public facilities at a tourist location are very important to provide convenience for tourists. These public facilities include parking lots, public toilets, directions, trash cans. From the results of interviews with respondents regarding their perception of public facilities, it can be concluded that according to them they are overall inadequate. There are only 22.00% recorded stated that public facilities were adequate, while others 57.00% stated that they were lacking adequate, 3.00% said very adequately and 18.00% said no adequate. The public facilities needed there are the need for a large parking lot sufficient, when visitors have difficulty parking, especially on holidays. Cars and motorbikes are parked along the road, so park until it fills up half the width of the road, it will be difficult if you want to get out of the location because of narrow parking.

Mangrove Ecotourism Area is an open location, no fence at that location, visitors can go anywhere they want with locations that may be far from security surveillance. Respondents' perception of the safety of this Mangrove Ecotourism area mostly states it is safe (77,00%), there were 13.00% stated that it was not safe, 7.00% said it was very safe and only 3.00% stated unsafe. Even though so far not there has been a criminal act in the ecotourism area, this perception may arise because no uniformed officers are showing as a member of the *Pokdarwis* who manages the ecotourism area.

Likewise with the friendliness of the officers, because there is no uniform as the identity of the officers in the Mangrove Ecotourism area because of the majority of residents and the surrounding population who manage it, then most of the 77.00% respondents have a good perception of the friendliness of the officers, which stating less friendly there were 11.00% unfriendly there were 2.00% and those who stated very friendly recorded there is 10.00%.

Mangrove conditions in the Mangrove Ecotourism area according to respondent's perception that there are 57.00% stated good, while the remaining 24.00% stated less good. There are several zones in the area that still needs to be improved with mangrove trees, such as along the river path that tourists need to add so that the lush and comfortable atmosphere will be able to attract tourists to linger enjoying mangrove tourism.

As a tourist area, of course the cleanliness of the environment needs attention. About 49.00% percent of respondents stated good environmental hygiene, they who stated bad as much as 13.00% and who stated poor 37.00%. Although there is already a trash can it turns out that the visitors still like to throw garbage in the ecotourism area, besides some garbage carried by the river flow to the Ecotourism area. Scattered fishing places make the location scattered, so from the side of cleanliness needs to get attention, by giving understanding to the visitors to maintain cleanliness by bringing plastic bags for their garbage.

**Table 4 Pearson Correlation Coefficient**

Node A	Node B	Pearson Correlation Coefficient
Nodes\\Conservation	Nodes\\Youth Engagement	0.420543
Nodes\\Ecotourism Development	Nodes\\Conservation	0.521228
Nodes\\Ecotourism Development	Nodes\\Youth Engagement	0.407806

Source: Data processed (2020)

Analysis of conservation related to the role of youth and ecotourism development used NVivo application, where the role of the community in conversion, especially in the role of youth as the driver of development. The role of youth and conservation in this study showed a coefficient of 0.42. In other words, the role of youth in this study has a correlation of 42 percent in supporting conservation activities. This cannot be denied because of the population of Tugu subdistrict of 38,985 people recorded as many as 16,500 people or 42.32 percent in the group of youth aged 15 to 44 years. This great youth potential will greatly help sustainable development related to Mangrove Forest Conservation. The role of youth in the development of ecotourism is also very important, there is a correlation of 0.41 youth involvement in ecotourism development. This cannot be denied by the number of potential youths in Tugu Subdistrict.

From the results of the analysis using the NVivo application, it can be said that the mangrove area conservation development strategy is very important which relates to the role of youth involvement in *Pokdarwis* groups to support the development of ecotourism. These results are in accordance with the opinion of (Mumpuni et al., 2015). That sustainable ecotourism will develop depending on conservation efforts. The role of society in conservation requires a paradigm and behavior change, that people's behavior towards nature is very important for environmental balance.

The analysis with NVivo is in accordance with the results of FGD resource persons that in the efforts to develop ecotourism areas, then some things that needed are:

#### **1. Conservation efforts**

This conservation effort becomes very important in the development of ecotourism. This is as described by a source from the Semarang City Environment Office, that the development of mangrove ecotourism area cannot be separated from mangrove forest conservation efforts. It has no benefit if the mangrove ecotourism area is not followed by conservation efforts of mangrove itself. A source from KeSEMaT added that mangrove conservation is the spearhead of the development of ecotourism areas, because mangrove conservation will have a direct and indirect impact on the community around mangrove forests. The direct

benefit is as an anchoring of sea water waves, and the mangrove area will be the growth of fish species. So it indirectly impacts fish production and can ultimately increase fishermen's catch. Mangrove conservation has an impact on the continuity of fish and shrimp pond cultivation, because with the preservation of pond cultivation areas will indirectly increase the income of farm farmers.

## **2. Youth and *Pokdarwis* Role**

The role of youth in mangrove conservation efforts is very important, without the participation of the role of youth, the chances of mangrove conservation success are very small. Youth as individuals or who join *Pokdarwis* during this time conduct mangrove replanting activities, mangrove nurseries. The role of youth and *Pokdarwis* itself is inseparable from the role of the environmental community in Semarang, such as KeSEMaT which conducts coaching and counseling to the community to maintain and protect mangrove forest areas. One of the activities carried out is by planting mangrove trees. This was approved by a resource person from the Semarang City Environment Office. Even the office has conducted mangrove planting activities in the ecotourism area. The program from the office is supported by the role of the surrounding youth community with the activity of planting 20,000 mangrove seedlings and making wave-retaining embankments or breakwater tools (OPA). This OPA is done by stretching used car tires along 120 meters.

## **3. Ecotourism**

Ecotourism development cannot be separated from conservation efforts and the role of youth and *Pokdarwis*. Ecotourism is essentially an educational and conservation tourism area for the sustainability of ecosystems in the region. As a tourist attraction, it is the expansion of the arrangement of the area without any omissions or reduce the sustainability of the environment. According to the speaker Dr. Susana, architecture lecturer of Diponegoro University, that ecotourism development should pay attention to environmental cleanliness, the provision of infrastructure that makes tourists more comfortable and can meet the basic needs of tourists such as the availability of trash cans, clean water, and restrooms. Then it is also recommended to increase the role of youth and *Pokdarwis*, because youth with ideas and ideas of innovation and creativity will be able to provide the necessary facilities and facilities for the comfort of tourists. Creative ideas are expected to bring up creative economic ideas in the development of ecotourism.

From the results of interviews with visitors one of the things that needs to be held is the expansion of parking lots. At the moment there is difficulty to park vehicles, especially four-wheeled vehicles, where there is not enough parking space available. So that one of the

proposed idea in the development of ecotourism area is the availability of adequate parking space.

**4. Willingness to Pay (WTP)**

As explained at the beginning, that there are three scenarios offered that are Rp.5.000,00. Rp.6.000,00 and Rp.12.000,00. There are 72% who are willing to pay Rp.12.000, only 8% willing to pay Rp.6.000,00 and 15% willing to pay Rp.5.000.00

This stage is to determine the average value of WTP, namely the average estimated value of the willingness of all sample respondents to pay a certain amount of dues set for conservation and development efforts of Mangrove Forest Tugurejo. Estimating the average value of WTP is used to map the ability and willingness of the average respondent to pay, so that it can be used for evaluation materials and program implementation, out of a total of 100 respondents who were asked willingness to pay it, distributed value and willingness of WTP respondents as follows (Table 5)

**Table 5 Willingness to Pay (WTP) respondents**

No (1)	WTP (2)	Frequency / Respondent (3)	Percentage (4)	Total WTP (2) x (3)
1	No Pay	5	5.0	0
2	Rp. 5.000,00	15	15.0	75000
3	Rp. 6.000,00	8	8.0	48000
4	Rp. 12.000,00	72	72.0	864000
	Total	100	100.0	987000

Source: Data processed in 2021

After it is known the distribution of WTP value of respondents who are willing to pay, the next thing is to estimate the average value of WTP to know the average willingness and ability of respondents to pay a certain amount of dues in the framework of conservation and development of Mangrove Forest Tugurejo, using the formula as follows:

$$EWTP = \frac{\sum_{i=1}^n WTP_i}{n} \dots \dots \dots (3)$$

$$EWTP = \frac{987.000}{100} = 9.870 \dots \dots \dots (4)$$

Based on the calculation of the distribution of respondents WTP values, the average value of WTP was obtained at Rp.9,970.00 which was rounded to Rp.10,000.00. This value becomes a reference to determine the size of the community dues per year, which is burdened to the community to support the successful conservation efforts and development

of Mangrove Forest Tugurejo. Payment technic for this dues can later be done through mandatory dues at regular meetings of the village community or inserted on the cost of payment of water accounts or electricity accounts, for the concept of payment of dues other than the surrounding community, namely tourists, can be used levy system in the entrance ticket of mangrove forest Tugurejo.

This analysis tries to bestow obligations in the willingness to pay the community to visitors of mangrove ecotourism area. The average tourist on holidays (Saturday – Sunday) is 1,000 people (information from *Pokdarwis*). Assuming that, it can be analysts revenue from parking levy and tourist entrance. Parking fee (including entrance ticket) is designed at Rp.5.000,00 (after discussion with stakeholders). According to them the amount of value of Rp.5.000,00 is not expensive because usually tourists do fishing activities within a day long, so the amount of the cost is not burdensome. Some assumptions in this analysis are:

1. Number of tourists as many as 1,000 people every week (not counted as public holidays)
2. In one year there are 56 weeks

Based on the above mentioned assumptions, the income obtained from the retribution is = 1,000 tourists x 56 weeks x Rp.5,000.00 = Rp.280,000,000.00 per year. If using scenario 3 (planting 150 trees and parker land), costs per year is around Rp.107.535.000,00 then each year can provide the remaining funds of Rp.172.465.000,00.

The economic value of mangrove tourism area will be greater if the value of indirect impacts such as the development of fish production is increasing, so that the revenue of farmers becomes increasing. Of course, the benefits of mangrove trees can be used for other purposes.

The Tourist's willingness to pay (WTP) depends heavily on mangrove conditions and environmental cleanliness. The regression results explain that the determining factor of the community willing to pay (WTP) is environmental cleanliness, the better the environmental cleanliness there is a tendency for people to pay higher, on the contrary if environmental cleanliness is not maintained, then there is a possibility that the community is only willing to pay less. The same result if seen from the condition of mangrove forests, the better the condition of mangrove forests, then the willingness of the community to pay higher is increasing, on the contrary if the condition of mangrove forests is not good, then the community is only willing to pay less.

The willingness of the community to pay might support better mangrove forest conditions, as well as good environmental cleanliness. Better mangrove forest conditions are

determined by forest area conservation efforts. Conservation efforts will make a better mangrove forest area that is determined in support of the community willingness to pay. Here is a link between WTP, mangrove forest conditions and conservation efforts.

**Table 6 Results of Regression Analysis of Environmental Hygiene Influence Mangrove Conditions to WTP**

Variable	Unstandardized Coefficients		Standardize	t	itself	Collinearity Statistics	
	B	Std. Error				Beta	Tolerance
(Constant)	-.752	.323		-2.330	.022		
Cleanliness	.998	.078	.778	12.746	.000	.999	1.001
:Environment							
Mangrove Conditions	.272	.081	.204	3.347	.001	.999	1.001
R <sup>2</sup>	0,639						
Adj. R <sup>2</sup>	0,632						
F	85.869						
Sig F	0						
Durbin Watson	2,111						

Source: Data Processed, 2021

The results of this regression model are in line and in line with the development strategy of mangrove ecotourism area, where the conversion of mangrove forests becomes a priority. As an ecotourism area, it must still maintain the condition of mangrove forests that are more beautiful. From the results of the associative analysis NVivo explained that the conversion of mangrove forests is influenced by the development of ecotourism areas, in addition to the role of the community. The role of the community is realized in the willingness to pay (WTP), which in the end greatly affects the success of mangrove forest conservation. Thus qualitative studies and quantitative studies in this thesis research become one unit. On the other hand, there are needs to conserve in the efforts to develop ecotourism areas which are supported by the willingness of the masses to pay and contribute. The willingness of the public to pay is influenced by environmental hygiene conditions and mangrove conditions. Mangrove conditions themselves will be better if the conservation is done.

## Conclusion

Based on the studies conducted, it can be concluded some findings as follows:

1. Conservation development strategy is strongly influenced by the role of youth involvement. Conservation Development will have a positive impact for the development of Mangrove Ecotourism Area. The role of youth involvement cannot be ignored in the development of mangrove ecotourism area.

2. There are three hypothetical scenarios offered, namely scenario 1 (planting 500 mangrove trees and their maintenance), scenario 2 (planting 1000 mangrove trees and their maintenance) and scenario 3 (planting 150 trees, maintenance and construction of parking lots) where the amount is Rp.5.000,00, Rp.6.000,00 and Rp.12.000,00 with an average value of WTP is Rp.10.000,00
3. Scenario 3 for 5 years of conservation and construction of parking lots costs Rp. 537,675,000.00 or a year worth Rp.107,535,000.00.
4. The Economic Value of tourism area from ticket receipts amounted to Rp.5.000,00 (including parking), then for one year it is estimated to generate revenues of Rp. 280,000,000.00. So that the cost of conservation and development of parker land can be covered by the receipt from ticket receipts, even has an excess of Rp. 172.465.000,00.
5. Factors that determine willingness to pay (WTP) are environmental cleanliness and mangrove conservation.

This research has limitations, namely that it was carried out during the Covid-19 pandemic conditions which made it difficult to access and afford the research object. In addition, this study also has sample criteria that make searching for sample objects takes time.

Based on the results and discussions that have been carried out, the following suggestions can be drawn:

1. The role and involvement of youth to continue to be improved, youth's understanding of environmental sustainability will have an impact on the development of Mangrove Ecotourism Areas.
2. To develop sustainable Mangrove Ecotourism Areas, the role and involvement of youth are very important, especially their involvement in Pokdarwis.
3. The development of Mangrove Ecotourism needs to pay attention to environmental cleanliness and mangrove conservation, besides the need to improve the availability of public facilities and recreational facilities.

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