



## Perceptions and Attitudes of Students towards the Benefits of Forests at ETCI Ermera Campus

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### ABSTRACT

The objectives to be achieved in this study are to determine the perception and attitude of students towards the benefits of urban forests in Talimoro Village. The variables observed in this study were student's perceptions and attitudes towards the benefits of urban forests. The determination of the sample carried out was 3 faculties and 10 departments getting 10 respondents so that the total number was 100 respondents. The data collection method was carried out by taking secondary data and direct observation in the field. The collected data were analysed using the SPSS application to determine the frequency of students' perceptions and attitudes. The results showed that East Timor Coffee Institute students had a Very Good perception, with a score of 447 and statements regarding personal experiences from 100 respondents had a very good attitude with a score of 388.

## **INTRODUCTION**

The forest in Talimoro Village is one of the forest areas in Gleno City which has a very important role in maintaining environmental sustainability in Gleno City. Ermera is known as the Coffee Forest and has sufficient potential to be used as one of the conservation and ecotourism forests in Ermera with various development patterns.

Ermera is one of the largest coffee forests in Timor-Leste. This is because the Ermera coffee forest is quite representative to meet the need for green open space in urban areas. Urban forests are one component of green open space. Sibarani (2003) said that the existence of urban forests is very functional as a hydrological system, creating a microclimate, maintaining the balance of oxygen (O<sub>2</sub>) and carbon dioxide (CO<sub>2</sub>), reducing pollutants, and reducing noise. In addition, it also functions to increase the aesthetic value and beauty of the city so that it has a positive impact on the quality of the environment and people's lives Sibarani (2003)

In the coffee forest there are many villages spread across Ermera, namely Mirtuto Village, Talimoro Village, Poetete Village, Humboe Village, Riheu Village, Lauala Village, Ponilala Village, Estado Village, Leguimea Village, Humboe Village and Raimerhei Village. Ermera coffee forest not only creates ecosystem balance and environmental benefits, but can also present aesthetic nuances, urban ecotourism needs, and as a research and education area in advancing Ermera to a bright future. Several points in the Ermera coffee forest area can be used by students as a means of practical learning, discussion, relaxation, playing and conducting research in the field. Based on these various explanations, researchers are interested in conducting research on student perceptions and attitudes towards the benefits of forests in Ermera.

## **LITERATURE REVIEW**

Forests have many benefits (multi benefits) that are very useful for the sustainability of human life and other creatures. Forests have quite large benefits for society in addition to providing wood and other products, forests store a large amount of genetic information, regulate climate and water management, protect and enrich the soil, control pests and diseases, regulate plant pollination and spread its seeds, maintain water quality, provide beautiful views and provide aesthetic value and others (Santoso and Robert, 2002).

According to Law No. 62 of 2002 concerning Urban Forests, urban forests are stretches of land with compact and dense trees growing in urban areas, both on state land and private land, which are designated as urban forests by authorized officials.

Urban forests are one component of green open space. The existence of urban forests is very functional as a hydrological system, creating a microclimate, maintaining the balance of oxygen (O<sub>2</sub>) and carbon dioxide (CO<sub>2</sub>), reducing pollutants, and reducing noise. In addition, it also functions to increase the aesthetic value and naturalness of the city so that it has a positive impact on the quality of the environment and people's lives (Sibarani, 2003).

Urban forests are defined as land where trees grow in an urban area on state land or private land that functions as an environmental buffer in terms of

regulating water, air, flora and fauna habitats that have aesthetic value and with a solid area are green open spaces for trees, and the area is designated by authorized officials as an urban forest (Dahlan, 2002).

### Framework

Based on Law Number 26 of 2007 concerning Spatial Planning and Regulation of the Minister of Public Works No. 05/PRT/M/2008 concerning Guidelines for the Provision and Utilization of Green Open Space in Urban Areas, it is stated that the definition of Green Open Space (RTH) is an elongated area/path and/or grouped, the use of which is more open, a place for plants to grow, both those that grow naturally and those that are intentionally planted.

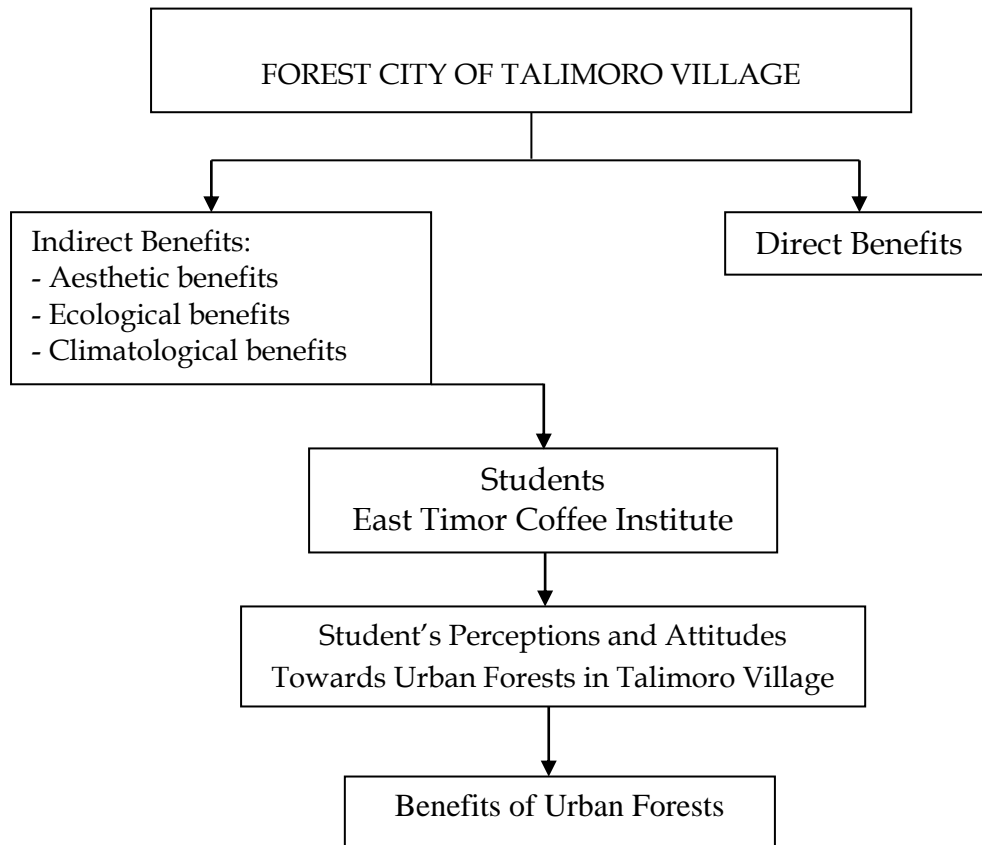


Figure 1. Research Framework Scheme

### METHODOLOGY

The data to be collected in this study consists of primary data and secondary data:

1. Primary data, namely data obtained through direct interviews with informants using questionnaires.
2. Secondary data, namely data obtained through recording and collecting available data that is related to this study.

The data collection techniques and instruments in this study are:

1. Questionnaires are also known as questionnaires or self-administrated questionnaires, which are data collection techniques by sending a list of questions to respondents to be filled in

(Sukandarrumidi, 2006). This questionnaire is aimed directly at students to obtain primary data in the form of student responses to the East Timor Coffee Institute Campus Forest.

2. Observation is a method of data collection carried out through observation and recording of symptoms or data that appear on the research object. This method is used to get a picture of the actual situation in the field.

Population is a generalization area consisting of: objects or subjects that have certain qualities and characteristics determined by researchers to be studied and then conclusions drawn (Sugiyono, 2009). In this study, the population in question is all students of the East Timor Coffee Institute.

A sample is a part of the number and characteristics possessed by the population (Sugiyono, 2008). Research on all respondents is often impossible due to limited resources.

This study uses Slovin's opinion in Kusmayadi, *et al.*, (2000), namely:

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

n = Sample Size

N = Population Size

e = Percentage of tolerance for inaccuracy due to sampling error that is still tolerable or desired, namely 10%.

So that the sample obtained is as follows:

$$\frac{21.488}{1 + 21.488 (0.1)^2} = 96,5 \quad (\text{So that it can represent 100 respondents})$$

So, this study uses a sample of 100 respondents spread across 3 faculties so that 10 departments are obtained, then there are 10 respondents. Therefore, the sampling technique in this study is by using the probability sampling technique, namely a sampling technique that provides an equal opportunity for each element (member) of the population to be selected as a sample member, which is carried out randomly (simple random sampling).

It is said to be simple because the taking of sample members from the population is done randomly without considering the strata in the population (Sugiyono, 2011).

### Data Analysis

The answers given by the respondents are then collected, analysed, and interpreted. The method of determining the score is by accumulating the highest number of those who choose a certain category and tabulated using the formula (Sukandarrumidi in Jumadil, 2015):

Score Formula =  $(\sum \text{ Respondents Choose SS X SS Weight}) + (\sum \text{ Respondents Choose S X S Weight}) + (\sum \text{ Respondents Choose RR X RR Weight}) + (\sum \text{ Respondents Choose TS X TS Weight}) + (\sum \text{ Respondents Choose STS X STS Weight})$ .

Attitude and Perception Category =  $(\sum \text{ Overall Score}) / (\sum \text{ Questions})$

**RESULT AND DISCUSSION**

**1. Students Perceptions and Attitudes towards the Benefits of Urban Forests in Talimoro Village**

Student’s perceptions and attitudes towards the benefits of urban forests are presented in the following table:

Table 1. Students Perceptions of the Benefits of Urban Forests in Talimoro Village

N u	Statement	$\sum$ Res s	$\sum$ scores	All $\sum$	Statement Score	Averag e Score	Informati on
1	Aesthetic benefits	100	1342	3	447	VG	
2	Ecological Benefits	100	3541	9	393	VG	
3	Climatological Benefits	100	3165	8	395	VG	
Total Score			8045	20			
Average Score					402		

Source: Primary Data Processed in 2024

Information :

- $\sum$ Res = Number of Respondents
- $\sum$ Total score = Sum of all Scores
- $\sum$ Statement = Number of Questions
- Average score = Sum of all scores/questions
- Inf = Information

Based on the distribution of answers from 100 respondents in the table above, the level of student perception of the aesthetic benefits of city forests that are overgrown with various plants provides aesthetic value because the green of the forest with various forms of leaves, branches, twigs and crowns and flowers that are integrated into a refreshing view.

East Timor Coffee Institute students have a Very Good perception, with a score of 447, because the Talimoro Village City Forest has beautiful views so they feel comfortable being around the forest and enjoying the various beauties of the Forest covered with trees with the resources they have, besides that the campus forest can provide a sense of comfort for anyone around it and many students relax around the Forest for example in the afternoon students see many students enjoying the beauty of the city forest. Based on the results of interviews with 100 respondents regarding the ecological benefits, the level of student perception of the aesthetic benefits of urban forests is Very Good, with a score of 393, their reasons are because forests or trees function to regulate water management, and store water, can prevent various environmental problems that occur, and are a habitat for flora and fauna that play an important role in the forest ecosystem, have a very important role in maintaining environmental harmony and have many benefits, for example, they can provide a sense of comfort, so that optimal management is needed so that it can also create good results.

Ecological benefits, namely achieving environmental harmony between plants, animals and humans and as a habitat for animals, such as birds and protection of germplasm. Urban forests with plant roots and litter are able to absorb excess water during the rainy season so that they can prevent flooding and maintain groundwater stability, especially during the dry season. Rain containing H<sub>2</sub>SO<sub>4</sub> or HNO<sub>3</sub> when it falls on the surface of the leaves will experience a reaction. When the surface of the leaves begins to be wetted, acids such as H<sub>2</sub>SO<sub>4</sub> will react with the Ca contained in the leaves to form CaSO<sub>4</sub> salt which is neutral. Thus, rainwater containing acidic pH through the interception process by the leaf surface will be able to increase the pH, so that the rainwater that falls is no longer so dangerous for the environment (Sibrani, 2003) Based on the results of interviews with 100 respondents regarding the climatological benefits, namely the creation of a microclimate, such as air humidity, air temperature, and rainfall so that it can increase coolness and comfort and achieve a stable and healthy climate (Sibrani, 2003), has a very good perception with a score of 395, from 5 statements of their reasons regarding the conversion of urban forests in Talimoro Village to Other Use Areas (APL) they do not agree because it can damage the ecosystem in it, so that the management of the urban forest is an effort to maintain environmental harmony so that it is stable, urban forests function as a hydrological system, create a microclimate, and have an ecological function, can store groundwater. In addition, the city forest has now changed its function due to the construction of buildings in the Gleno Forest area, causing some vegetation to be lost/destroyed because building construction requires empty land, and damages some of the forest around the forest, and indirectly the existing vegetation will be lost and destroyed, so that environmentally friendly management is needed. The existence of the Talimoro Village City Forest can reduce global warming and as a supplier of O<sub>2</sub>. In addition, the city forest can reduce the impact of houses and can withstand the wind. Based on the table above, out of 100 respondents and 37 student statements that have a Hesitant perception, it is influenced because they are still confused by the statement and their understanding is still lacking, which is influenced by education, while those who have statements that disagree and strongly disagree are influenced because the knowledge they have obtained and the information they have is still lacking.

Based on the accumulation of the overall score from the respondents' answers, after being totalled, the figure is 8045.

$$\text{Perception Category} = \frac{8045}{20} = 402$$

Based on the assessment criteria, the score of 402 is categorized as very good. Thus, student's perceptions of the benefits of the Talimoro Village urban forest are Very Good.

Table 2. Student's Attitudes Towards the Benefits of the Talimoro Village Urban Forest

Nu	Statement	$\sum$ Res	$\sum$ All scores	$\sum$ Statement	Average Score	Information
1	Personal Experience	100	775	2	388	VG
2	Influence of Others	100	769	2	384	VG
Total Score			1544	4		
Average Score					386	

Source: Primary Data Processed in 2024

Description:

$\sum$ Res = Number of Respondents,  $\sum$ Total score = Sum of all Scores,  $\sum$ Statement = Number of Questions, Average score = Sum of all scores or questions, Inf= Information.

Based on the statement above, the personal experience of 100 respondents has a very good attitude with a score of 388, which states that the Talimoro Village city forest gives the impression of fostering a love for the forest which can attract students to continue to maintain the surrounding forest, and can provide many benefits for human life. In addition, forest management in the city of Gleno is closely related to objects that have been seen before, so that it can provide an overview of what needs to be done in forest management.

Personal experience is what has been and is being experienced will help shape and influence the appreciation of social stimuli. Responses will be one of the bases for forming attitudes, to be able to have experiences related to psychological objects (Saifuddin and Azwar, 2003).

Based on the results of interviews with 100 respondents regarding the influence of others, the average has a very good statement with a score of 384 out of 4 statements. This is because in institutions related to forestry, they contribute to the arrangement of urban forests, especially in the forestry sector, so in forest arrangement there is no need to look outside the East Timor Coffee Institute because the East Timor Coffee Institute already has a forestry department that can help in forest arrangement and involve environmental experts in designing urban forests so that with the presence of environmental experts, urban forests can be known what needs to be changed and added in designing the future East Timor Coffee Institute campus forest, East Timor Coffee Institute also has a forestry department that plays a very important role in the arrangement of the East Timor Coffee Institute Forest, efforts to preserve forests at the East Timor Coffee Institute cannot be separated from cooperation with institutions engaged in the environmental sector because these institutions have an important role in preserving the existing environment.

The influence of others is one of the social components that influences attitudes. Someone who is considered important will be able to greatly influence the formation of attitudes towards something (Saifuddin and Azwar,

2003). Based on the table above, out of 30 respondents and 22 student statements, the average is Strongly Agree and Agree because their knowledge and experience of campus forests are very good, this is influenced by personal experience and information from others.

## **CONCLUSION**

Based on the results of the study and discussion on student's perceptions and attitudes towards the benefits of forests in Talimoro Village, it can be concluded as follows:

1. East Timor Coffee Institute students have a very good perception of the benefits of urban forests, this can be seen from their knowledge and statements regarding the benefits of forests.
2. East Timor Coffee Institute students have a very good attitude towards the benefits of urban forests in Talimoro Village, seen from their experiences about the importance of forests for human life and the benefits received by students from the East Timor Coffee Institute campus forest.

## **FURTHER STUDY**

Further research is needed on biomass and carbon because Ermera has many forest plants that provide fresh oxygen for the community and the public.

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