INVENTORY TYPES OF TREES IN THE FOREST AREA OF LAMPAGEU UJUNG PANCU VILLAGE, ACEH BESAR DISTRICT

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ABSTRACT

Forest inventory is an activity to collect data and information about forest resources, potential forest wealth and the complete environment which includes surveys regarding the status and situation of physical forest, flora and fauna. Transect lines are narrow lines across the land to be studied/investigated. The transect method aims to determine the relationship between vegetation changes and environmental changes and to determine the relationship vegetation available in a land quickly. In this case, if the vegetation is simple, the lines used are shorter. For forests, the line length used is usually around 50m-100m, while for bush vegetation, the line used is 5m-10m. Purposive sampling is a sampling method where the researcher ensures the citation of illustrations through a method of determining special identities that suit the research objectives so that they are expected to be able to respond to the research case.

Keywords : *Inventory of tree species, line transect method, purposive sampling*

ABSTRACT

Forest inventory is an activity that involves collecting comprehensive data and information about forest resources, the potential wealth of forests, and their environment. This includes surveys on the status and physical condition of forests, as well as the flora and fauna. The transect line is a narrow strip of land designated for study or investigation. The transect method aims to identify the relationship between vegetation changes and environmental changes and to quickly ascertain the vectorization relationship within a land area. For simpler vegetation, shorter lines are used. Typically, for forests, the line length ranges from 50m to 100m, whereas for shrub vegetation, the line length is only 5m to 10m. Purposive sampling is a method where researchers select samples with specific characteristics relevant to the research objectives, ensuring the chosen samples can adequately address the research questions.

Keywords: Tree type inventory, transect method, purposive sampling

INTRODUCTION

Ujong Pancu is a coastal area located in Peukan Bada District, Aceh Besar Regency. In this area there is a bay known as Pancu Bay (Kuala Pancu). This is one of the biggest bays which is found along the west coast of Sumatra Island. In this area, many archaeological sites are found scattered randomly in various locations. Based on its geographical location, Ujong Pancu is a bay that starts from the Ulee Lheue area on the

east side and borders the cape of Lam village pageu on the west side. This bay is very influential on the tides and tides. When the sea water rises, most of the bay area will be inundated by sea water, whereas if the sea water recedes, the area on the coast of Pancu Bay will become a wide stretch of beach.

Ujong Pancu is located at the western tip of Sumatra Island. The location of this region is very strategic because it directly faces the Malacca Strait and the Bay of Bengal. In the past, the Strait of Malacca was a route connecting China with the Middle East. This route has been used since the first century AD until the end of the 20th century AD by traders from various parts of the world as the main maritime trade route. Ujong Pancu is an area that has various types of trees.

Trees are higher plants with trunks and branches made of wood and can live for several years. The four main parts of a tree are roots, stems, branches, and leaves. Tree roots are in the ground. Roots carry water and food from the soil through the stem and branches to the leaves. The trunk is the main part of the tree. The stem is covered with skin which protects the stem from damage. Tree leaves are usually green, but can also have other colors, shapes and sizes. The diversity of tree species in the Ujong Pancu Forest can be inventoried.

Forest inventory is an activity to collect data and information about forest resources, potential forest wealth and the complete environment which includes surveys regarding the status and situation of physical forest, flora and fauna. Inventory of tree species in the Ujong Pancu forest is an important activity. The results of this inventory can be used in forest planning.

Data collection on tree species can be done using various methods such as line transects and quadrats. The transect line method is a method that draws a sampling line across a formation or several formations. Transects can also be used in studies of altitude and knowing changes in existing communities.

The quadratic method is one method of analyzing vegetation, namely observing sample plots whose area is measured in square units. The shape of the sample plot can be rectangular, rectangular or circular. This method is very easy and fast so it is suitable for the structure and composition of plant vegetation. This research also uses a purposive sampling technique to meet the criteria for providing information.

Purposive sampling is a non-random sampling method where researchers ensure the citation of illustrations through a method of determining suitable special identities with research objectives so that it is hoped that it can respond to research cases.

The lack of publication of tree species in Lampageu Ujung Pancu Village makes this research necessary. Therefore, the aim of this research is to obtain information and facts, as well as publish it for the public interest and as knowledge about the types of trees in Lampageu Ujung Pancu Village, Aceh Besar Regency.

RESEARCH METHODS

Place and time

This research was carried out in a forest area Ujong Pancu, Aceh Besar Regency. The research was conducted in June 2023. A map of the research location can be seen in Figure 1 below:

Figure 1. Map of research locations in the Lampageu Ujung Pancu Village Forest Area, Aceh Besar Regency.

Tools and materials

The tools and materials used in the tree species inventory research in the Lampageu Ujung Pancu Village Forest Area, Aceh Besar Regency can be seen in Table 1 below:

Table 1. Tree Species Inventory Research Tools and Materials In the Area Lampageu Village Forest Ujong Pancu In the Regency Aceh Besar

No	Tools and materials	Function
1.	Land meter	To measure the height of a tree
2.	Clothes meter	To measure DBH
3.	Such raffia	To determine the plot area
4.	Red ribbon	To mark the boundaries of each plot
5.	Camera	To take sample images
6.	Stationery	To record data
7.	Ziplock plastic	To collect existing sample results in the field
8.	Module practice	As a practical guide
9.	Label	For the data collection process
10.	Clip the plant	To cut samples
11.	Plant identification application	To identify samples

Research procedure

The research procedure was carried out using the transect line and square method starting by pulling a 100 meter long transect line using raffia rope. The start and end points of transect lines are marked with markers to clarify quadrat or plot boundaries. Then, the quadrat placement points along the transect line were determined, with a total of 10 plots and a distance between plots of 10 meters. In each quadrant, leaf samples were taken from all tree species using scissors and put in a plastic ziplock and given a name label per plot, the tree height and trunk diameter (DBH) were recorded. Each leaf sample and tree height was photographed using a camera for easy identification. The stem diameter (DBH) was measured

Use a clothes meter and a soil meter to measure the height of the tree.

RESULTS AND DISCUSSION

Environmental conditions

Ujong Pancu is a coastal area located in Peukan Bada District, Aceh Besar Regency. In this area there is a bay known as Pancu Bay (Kuala Pancu). This is one of the biggest bays which is found along the west coast of Sumatra Island. In this area, many archaeological sites are found scattered randomly in various locations. Based on its geographical location, Ujong Pancu is a bay that starts from the Ulee area Lheue on the east side and borders the village headland Lampage on the west side. Ujong Pancu is located at the western tip of Sumatra Island. The location of this area is very strategic because it directly faces the Strait of Malacca and the Bay of Bengal. Ujong Pancu has very diverse plant vegetation.

The Ujong Pancu forest has wavy, bulky and rocky topographic conditions with a soil pH of 7 and soil moisture of 4.5.

Inventory of Tree Types in the Ujong Pancu Forest, Aceh Besar Regency.

These types of trees aim to obtain information and facts, as well as publish them for the public interest and as knowledge about the types of trees in Lampageu Ujung Pancu Village, Aceh Besar Regency.

Inventory tree types carried out in the Ujong Pancu Forest using the 100 m long transect line method and the divided square method in 10 plots. The research results found 23 tree species. The growth of this tree vegetation shows that this species is able to grow well in the Ujong Pancu forest, Aceh Besar Regency.

Based on the results of research in Ujong Pancu, Aceh Besar district, it is hoped that the forest will be managed well because high, varying growth rates can affect the ecosystem. The types of trees in the Ujong Pancu Forest, Aceh Besar Regency can be found seen on Table 2 below:

Plot	Species	Local	DBH	Height	Dominance
Plot 1	*Dalbergia Nigra*	Rosewood	72 cm	12 m	Title
	Mangifera Indica	Please	42 cm	13 cm	Title
	True Cinnamon	Sri Lanka cinnamon	14 cm	3 cm	Canopy
	Lafoensia Glyetocarpa	lafoencia	22 cm	9 m	Title
	Persia Aculeata Mill	Hijau for us	12 cm	8 m	Title
Plot 2	*Siamese Seine*	Johar	84 cm	17 m	Title
	Derbergia Nigm	Rosewood	30 cm	17 m	Title
	Calophyllum Calaba	Mentangur	32 cm	8 m	Title
	Borrow Serotine	Almond	26 cm	8 m	Title
Plot 3	*Oblong terminals*	Chiapas	8 cm	3 m	Canopy
	Tamarindus Indica	Tamarind	125 cm	1,6 m	Canopy

	Spondias Pinnata	Kedondong forest	230 cm	1,88 m	Title
	Neocinnamomum Delavayi	Delavay cinnamon	84 cm	16 m	Title
Plot 4	*Crateva Unilocularis*	Varun	76 cm	15,5 m	Title
	Syzygium Cuminus	Jamun	135 cm	36 m	Title
	Japanese privet	-	110 cm	16 m	Title
Plot 5	*Matudaea Trinervia*	-	30 cm	10 m	-
	Bauhinia Variegata	Hong Kong Orchid Tree	40 cm	35 cm	Title
	Ash of Uhdei	-	110 cm	40 m	Title
Plot 6	*Sygonium Podophyllum*	-	1,85 m	18,5 m	-
	Dasymascholon Rostrum	-	430 cm	97 cm	-
	Dymocarpus Long	-	134 cm	1,78	-

CONCLUSION

Based on the results of research on the composition of tree species, 23 species were found, the types of trees in the Ujong Pancu forest area, Lampageu village, Aceh Besar district include: *Dalbergia Nigra, Mangifera Indica, Cinnamomum Verum, Lafoensia Glyetocarpa, Calophylum Calaba, Pareskia Aculeata Mill, Senna Siamea, Derbergia Nigm, Calophylum Calaba, Pruntus Serotine, Terminalia Oblonga, Tamarindus Indica, Spondias Pinnata, Neocinnamomum Delavayi, Crateva unilocularis, Syzygium cumini, Japanese privet, Matudaea Trinervia, Bauhinia Variegata, Uhdei Ash, Sygonium Podophilum, Dasymascholon Rostratum, and Dymocarpus Long.* The average tree height ranges from 8-18 m and tree DBH ranges from 8-430 cm.

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