

## THE STUDY OF POTENTIAL NATURAL REGENERATION OF SANDALWOOD (*Santalum album* Linn.) OUTSIDE THE COMPARTMENT 5 WANAGAMA I GUNUNGKIDUL

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### ABSTRACT

Natural regeneration of Sandalwood have spread broadly in Compartment 5 consist of 206 seedlings (IVI = 15,95 %), 88 saplings (IVI = 22,08 %), while there were fewer poles and trees exist in 30 compartment; where the amount of the first planting were remain at 0.3 %. Today the natural regeneration have spread out side of Compartment 5. The expansion of natural regeneration of Sandalwood has being stolen and got pressure of gulm causing the decreasing of potential sandalwood stand. One solution to solve that problem was by doing some research to explore the potential of natural regeneration of Sandalwood in order to consider in determining further step in silviculture action. The information obtained from the research will be a guide for maintaining the sustainability and increasing the potential of sandalwood, especially in Wanagama I Gunungkidul.

This research was done by using the Systematic Plot Sampling method by means of Nested Plot conforming to 8 points of compass along 1 km. Nested Plot of 20x20 m was used to inventory the regeneration in tree levels; plot of 10x10 m was used to inventory the regeneration in pole level; plot of 5x5 m was used to inventory the regeneration in sapling level; and plot of 2x2 m used to inventory the regeneraiton in seedling level. Smaller plot was inside bigger plot.

The result of research showed that potential of natural regeneration of Sandalwood consist of 44 seedlings (IVI = 9,59 %) and 3 saplings (IVI = 9,59%) were fewer, the seedlings were distributed in group (CD = 4,47 and  $t = 95,87$ ) into West and NorthWest of points of compass and saplings were randomly (CD = 0,95 and  $t = -1,42$ ) distributed outside the Compartment 5. The potential of natural regeneration of poles and trees of Sandalwood were fewer.

**Key Words : Potential, Natural Regeneration, Sandalwood, Outside The Compartment 5**

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## BAB I

### PENDAHULUAN

#### A. Latar Belakang

Hutan sebagai salah satu kekayaan alam yang ada di Indonesia mempunyai berbagai macam fungsi, salah satunya adalah sumber plasma nutfah yang didalamnya terdapat masyarakat hutan. Masyarakat ini tidak terbentuk sekali jadi, melainkan melalui proses yang sangat panjang, dimulai dengan terjadinya pelapukan batu-batuan oleh proses kimiawi, mekanis, maupun alami, kemudian membentuk tanah melalui pelapukan lanjutan dan diikuti dengan membentuk macam-macam tingkatan kehidupan (tumbuhan dan hewan) yang akhirnya mencapai masyarakat hutan klimaks (Richard, 1964). Hutan sebagai tempat tumbuh tanaman banyak ditumbuhi oleh vegetasi. Menurut Marsono (1977), vegetasi merupakan kumpulan tumbuh-tumbuhan yang biasanya terdiri atas beberapa jenis dan hidup bersama-sama pada suatu tempat dimana diantara individunya terdapat interaksi yang erat baik individu-individu tumbuhan itu sendiri maupun interaksi dengan binatang-binatang yang hidup disitu dengan faktor lingkungan tempat tersebut.

Suatu tanaman mempunyai kemampuan untuk melakukan regenerasi seperti halnya makhluk hidup lainnya yang bertujuan untuk melestarikan jenisnya. Menurut Smith (1962), permudaan atau regenerasi adalah penggantian pohon-pohon tua oleh anakan pohon baik terjadi secara alami maupun ditanam (buatan). Apabila permudaan terjadi secara alami disebut dengan permudaan alam (*natural*