

GROWTH OF *Rhizophora apiculata* PROPAGULES AND
Nypa fruticans SEEDS IN SETIU, TERENGGANU

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IN SETIU, TERENGGANU**

By

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RESEARCH PROJECT I AND II

It is hereby declared and verified that this research report entitled:
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LIST OF ABBREVIATIONS

cm	-	centimeter
N	-	Nitrogen
P	-	Phosphorous
K	-	Potassium
%	-	percentage
ppt	-	Part per thousand

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ABSTRACT

The study was conducted to find out the growth and survival rate of 2 mangroves species which commonly replanted in any mangrove replanting project, *Rhizophora apiculata* and *Nypa fruticans*. Taking part in Kampung Pengkalan Gelap, Setiu, Terengganu, and the project began in June, 2010 with the sowing of 90 individuals for each species in the nursery. The plants growth and survival were observed monthly and after 4 months raised in nursery, they were transferred to a selected field, about 1 km from the nursery. Follow up survival inspection after transfer was done twice, after the 1st and 3rd month of transfer and all the findings were recorded. It was found out that *Rhizophora apiculata* grow at a steady rate in the nursery, due to suitable salinity of the area which is 12 ppt. However, after transferred to the field, the plants were having shock problem since the salinity there is lower than at nursery, averagely 5 ppt. Thus, it took the plants more than 1 month to adapt with the new environment and start growing again. As for *Nypa fruticans*, they grew slowly in the first 4 month in the nursery since about 50% of the seeds do not grow to develop the 1st set of leaves. However, after the 4th month, all seeds plumule start to develop their 1st set of leaves and start growing at a steady rate. After transferred to the field, the plants were not facing shock problem with the salinity changes and continue to grow steadily. Both species have high survival rate during raised in the nursery, leading to a fact that water salinity was a crucial factor in determining the survival of a species, and ensuring the success of a mangrove replanting project.

ABSTRAK

Kajian ini telah dijalankan untuk mengetahui pertumbuhan dan kadar kelangsungan hidup 2 spesies pokok bakau yang sering ditanam untuk projek penanaman semula, *Rhizophora apiculata* dan *Nypa fruticans*. Bertempat di Kampung Pengkalan Gelap, Setiu, Terengganu, projek ini bermula pada Jun, 2010 dengan penyemaian 90 anak benih untuk setiap spesies di dalam nurseri. Pertumbuhan dan kadar kelangsungan hidup pokok dicatat secara bulanan dan selepas 4 bulan, pokok dipindahkan ke kawasan yang dipilih untuk penanaman semula, kira-kira 1 km daripada nurseri. Pemeriksaan kadar kelangsungan hidup setelah ditanam semula dilakukan sebanyak 2 kali, pada bulan pertama dan ketiga setelah ditanam dan semua data direkodkan. Berdasarkan data, spesies *Rhizophora apiculata* bertumbuh dengan normal di nurseri kerana kemasinan air di situ sesuai dengan spesies tersebut, iaitu setinggi 12 ppt. Walau bagaimanapun, setelah ditanam di kawasan baru, pokok-pokok mengalami kejutan kerana kemasinan di kawasan baru itu lebih rendah, iaitu 5 ppt. Oleh itu, pokok-pokok memerlukan masa lebih daripada sebulan untuk menyesuaikan diri dan mula bertumbuh semula. Pokok *Nypa fruticans* pula menunjukkan kadar pertumbuhan yang rendah semasa 4 bulan pertamanya, kerana hampir 50% pertumbuhan plumul benihnya tidak berkembang menjadi set daun pertama. Walau bagaimanapun, setelah 4 bulan, semua plumul benih mula menjadi daun dan bertumbuh secara normal. Pertumbuhan pokok tidak terjejas walaupun setelah ditanam di kawasan baru. Kedua-dua spesies menunjukkan kadar kelangsungan hidup yang tinggi semasa ditanam di nurseri, mengusulkan bahawa kadar kemasinan air yang sesuai adalah

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