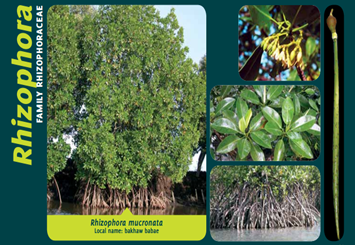
**ABSTRACT**

**LOHAN, MICHELLE R.** (2017). **Growth Performance and Survival of Bakauan babae *(Rhizophora mucrnata)*.** Doctor of Philosophy in Science Education. Don Mariano Marcos Memorial State University Mid-La Union Campus, College of Graduate Studies, City of San Fernando, La Union, Philippines.

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Bakauan- babae  (Rhizophora mucronata) is found in mangrove s wamps throughout the Philippines. It is also found in tropical shores of the Old World. Rhizophora mucronata belongs to family Rhizophoraceae (Schwarzbach and Ricklefs, 2000) and commonly known as the looproot mangrove, red mangrove and Asiatic mangrove (Grin, 2006).

This is a tree of the mangrove swamps growing up to 12 meters in height, with numerous prop roots. The leaves are shinning, oblong-elliptic, 8 to 16 cm long, 3.5 to 8 cm wide, and pointed at both ends. The cymes are axillary, 2.5 to 4 cm long, and bear from 3 to 7 stackless, white or cream-colored flowers. The fruit is ovoid, 3.5 to 5 centimeters long, pendulous, and brown or olive-colored; the persistent calyx-lobes are reflexed. The protruded radicle is green and cylindrical, attaining often a length of 20 to 40 cm before falling from the tree. The seeds often germinate while yet on the tree and crop as young plants into the mud below (Stuart 2016).

*Fig. 1. Bakauan babae (Primaver 2009)*

Specifically, this study aimed to (1) determine the growth performance in terms of increment in plant height, increment in length of stem, increment in diameter of stem, number of leaves produced, increment of length of leaves, and increment in width of leaves; (2) determine the survival rate on the three types of soil treatment; (3) determine whether significant differences on the growth performance exist between and among the treatments; (4) determine whether significant difference exist on the growth performance in two types of environment; (5) determine if significant differences on the survival rate exist between and among the treatments; (6) determine if significant differences on the survival rate exist between two types of environment; (7) determine the relationship of the salinity on the growth performance in the two types of environment; and (8) develop Information and Education Communication (IEC) materials on Bakauan babae (*Rhizophora mucronata*).

Three (3) types of soil were used as treatments in raising mangroves within the reforestation and nursery environment. The sandy loam soil in the seaward area, sandy mud in the landward area and pure mud in the riverine area. Each treatment was replicated three (3) times and each replicate had ten (10) mangrove propagules planted in a specified environment.

The experimental method of research through Complete Randomized Design (CRD) was used in this study. This study was limited to determining the growth performance of the Bakauan babae (Rhizophora mucronata) within 49 days of propagating and planting period from February 24, 2017- April 15, 2017. It was conducted in the fishery facility of the Provincial Agriculture Office located at the Provincial Mangrove Information Center and Nursery, Brgy. Arnedo, Bolinao, Pangasinan, Philippines.

*The growth performance and survival of Bakauan babae (Rhizophora mucronata) in the two types of environment nursery and reforestation was determined through testing the differences across types of soils sandy loam (seaward), mud (riverine) and sandy mud (landward).*

*The growth performance and survival of Bakauan babae (Rhizophora mucronata) which were planted in the nursery and reforestation environment tested three types of soil: sandy loam (seaward), pure mud (riverine) and sandy mud (landward) using Complete Randomized Design. Soil analyses were done in a soil laboratory.*

*Pure mud and sandy loam are the types of soil which could be used for the plantation of Bakauan babae (Rhizophora mucronata). In between environments, reforestation in the riverine area would be most favorable for the plantation. The developed IEC materials should be disseminated and used to increase the level of awareness about mangroves of stakeholders such as students, fisher folks and mangrove managers.* *Seminars/trainings and workshops should be conducted to stakeholders such as students, fisher folks and mangrove managers to increase their knowledge on what mangrove species to grow.*

***Keywords:***  *Bakauan babae (Rhizophora mucronata) ,growth performance, environment*

*nursery, reforestation, survival*

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