

# EVALUATION OF THE SUCCESS OF ACTIVE MANGROVE RESTORATION PLANTINGS IN AMBARO BAY ", DIANA REGION, MADAGASCAR

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## **Submission:**

### **Background**

The implementation of reforestation has been supported by WWF through the BMZ II project since 2015.

### **Method**

**Methods:** The objective is to collect as much data as possible from the intervention areas that will allow later evaluation of the success rate of the plantations and the growth in height of the trees by measuring the height.

The simple random sampling inventory was adopted. However, plots from different planting years were surveyed.

The number of plots per site and plots per plot is proportional to the area.

The inventory plot is square in shape with 10 m sides, i.e. 100 m<sup>2</sup> in area.

The inventory team tried to inventory as many plots as possible for a limited field work duration of 21 days.

The number of plots surveyed was 134 distributed in 47 plots and 7 sites.

In each plot, the layout of the plots follows a transect from the mangrove boundary to the field limit. The number of plots per plot is proportional to the area of the plot. 02 successive plots must be at least 20 m apart. However, this distance depends on the surface of the plot, it can be increased for large plots to ensure the representational of the plots.

### **Results**

**Results:** The success rate of each plot is obtained by calculating the ratio (%) between the number of healthy plants per plot/ha and the total number of plants planted/ha corresponding to the sum of dead and healthy plants counted. The error in estimating the success rate of 8% is very small. This indicates the high reliability of the results.

The average planting density was 8473 ±6517 plants/ha. The average success rate is 69±20% resulting in approximately 8,623,395 live seedlings on 1475 ha.

the average annual growth in height of the plants of the inventoried sites is about 37±21 cm /year for the whole . However, the average annual productivity in volume is very low at 0.5 ± 2.05 m<sup>3</sup>/ha/year. The coefficient of variation is also very high (413%). The interpretation of the results must therefore be put into perspective.

### **Conclusion**

**Conclusion:** Social acceptability is a necessary prerequisite for the successful implementation of a restoration project, especially if the degradation of the mangrove

is of anthropogenic origin, as is the case with the mangroves of Ambaro Bay. This acceptability of the local population is seen in the annual increase of the restored area per village.

The analysis of abiotic parameters as well as a strong knowledge of the distribution of mangroves in the vicinity allows choosing the species to be planted by site.

The choice of species should consider the species present in the vicinity of the site and avoid monospecific plantations