

## **Project Update: October 2021**

### **Summary of Aims of Your Project**

Traditional mangrove restoration methods work best under normal ecosystem conditions. Once these conditions change and become extreme such as erosion caused by sea-level rise, an alternative method needs to be deployed. Gazi Bay is experiencing increased shoreline erosion and is rendering local community efforts of mangrove restoration futile. Therefore, Riley Encasement Method, an enhanced restoration method is sought to help resolve restoration issues. The end goal is increasing restoration success which translates to reduced mangrove degradation and shoreline erosion.



### **Project Updates**

Where our project is located, Gazi Bay Kenya, a section of shoreline has for last decade seen huge erosion which has really affected the growth and survival of mangroves. Initial efforts to restore planting in the area a new way of restoring the degraded mangrove stretch has not been very successful. The mortality of planted seedlings is very high mostly because the sediment in the site has completely been changed also the area is has high wave energy. This where we sort to rectify this by using enhanced restoration method.



**Step 1:**

In the initial stages we assessed the degree of erosion by looking at the water level (Pictures). This gave us the level to which we used to measure our bamboos and PVCs encasement.





**Step2:** Once we knew the height levels of the bamboos and PVCs, we prepared the bamboos and the PVCs by drilling the holes. Holes meant to allow flow of water in and out and avoid choking of the seedlings.

**Step 3:** In the field, community youths helped digging holes to install the bamboos and PVCs. This was quite energy consuming but the team was very happy to be in the project and this to them was fun and also a learning experience to the community.

**Step4:** For the pots, we gave specification to a lady making the pots. This because making the pot technical and is an old technique which is not very common to current generation of restoration. What the current generation is using as pot is cement and sand, but these are not biodegradable like clay pot and that why we settled for locally made clay pot. The pot is first moulded by hand and then baked in kiln to harden





**Step5:** Once all the encasements' materials were read: i.e., the pots bamboo, PVCs, we collected *Rhizophora* propagules to plant in these encasements.



The propagules were then planted both in the PVCs, Bamboos.



In the case of pots were sought to used two leaved propagules and test they survivability

**Step 6:** Now we are monitoring as a strategy to check which techniques will give the best results. In this we want to see which better fits restoration of mangrove in the eroded area. Also beside these are science test on going to have a publication in restoration journal.

