

UNIVERSITY OF TOLIARA  
INSTITUT HALIEUTIQUE ET DES SCIENCES MARINES  
Rue Dr. Rabesandratana HD  
PO Box: 141 – Toliara 601 – Madagascar  
+261 20 94 941 67 | [direction@ihsm.mg](mailto:direction@ihsm.mg) | [www.ihsm.mg](http://www.ihsm.mg)

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## Progress Report

### Campaign fieldwork on June-August

“Trial of seagrass restoration techniques in Ranobe Bay, southwest of  
Madagascar”



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## 1. Introduction

In the implementation of the seagrass restoration project called "Trial of seagrass restoration technique in Ranobe bay, south-west of Madagascar", the following activities have been carried out in Ifaty and Beravy villages such as: 2 campaigns of sensitization, 2 sessions for training of the local community and 2 campaigns for site prospecting with local communities' leader. During the site prospecting, the study of environmental parameters and the sediment samples collecting were also carried out at Ifaty and Beravy. The sediment samples were analyzed at the laboratory of our institute (Institut Halieutique et des Sciences Marines). After samples collecting, we process to the transplantation activities in both villages Ifaty and Beravy. The implementation is currently in progress for the second site in Beravy village.

## 2. Fieldwork campaign on June-August 2022

### 2.1. Meeting with local communities

So far, two awareness sessions and two training sessions of the communities on the transplantation technique of seagrass were organized in the two villages (Ifaty and Beravy). The first campaign consists of sensitizing the local communities on each site about the importance and the need of protection and conservation of the seagrass ecosystem because of numerous threat and pressure. It's have been made in order to show them the benefits and advantages of protecting and conserving a seagrass ecosystem. The second meeting consists to train the local communities, particularly the fishermen communities, on transplantation techniques of seagrass.

#### 2.1.1. Meeting awareness in Ifaty village

The first awareness meetings were conducted with the local community of Ifaty village (Photo.1). Around 63.23% of the participants are fishermen who practices small-scale fishing

as livelihood and source of income. The second session concerned the training of the local communities on the seagrass transplantation techniques. During this training, 62 people were attended, and some of them works with me as a volunteer for the implementation of this project.



Photo 1: Photo showing the meeting with the local community in Ifaty

### 2.1.2. Meeting awareness in Beravy village

During the first awareness meeting in Beravy (Photo.2), 62 people were attended, composed by 30 men and 32 women. About 35,48% of the attendees are people who are mainly involved in small-scale fishing, of which 95,45% of the fishermen were men. For the second meeting, 54 people were attended, which 88,89% of them are fisher who also practice small-scale fishing as livelihood and source of income. Thereby, 56.25% of the fisher are women who fish on foot in the seagrass and coral reef areas.



Photo 2: Photo showing the meeting with the local community in Beravy

## 2.2. Prospecting and localization of collection and transplantation sites

Geographical coordinates of our study sites have been recorded to facilitate the localization of our sites by using GPS:

- **transplant collection sites:** 23°15.228'South and 043°60.706'East in Ifaty and 23°21.745'South and 043°40.578'East in Beravy,
- **transplantation sites:** 23°15.365'South and 043°60.236'East in Ifaty and 23°11.922'South and 043°40.578'East in Beravy.

Each transplantation area has been demarcated in collaboration with the local communities. The demarcated areas are protected to ensure security, so all kinds of fishing activities are prohibited according to the decisions taken during the meeting with the local communities.

## 2.3. Study of environmental parameters

The physicochemical parameters such as temperature, salinity, water turbidity and depth of the transplantation sites and sites of collection of transplants were taken and recorded. Thus, the sediments samples collection was also done in order to determine the nature of particle size. The measurements have been done at the IH.SM's lab. (Photo.3).



Photo 3: Photo showing the stages of sediment sample analysis in the laboratory: A) drying in an oven, B) sieving with a shaker and C) weighing the rejects after sieving

## 2.4. Transplanting implementation

The species *Cymodocea serrulata* was chosen to test the technique of transplanting seagrass meadows in Ranobe Bay. This species adapts to various depths and to various of sediment size. During transplantation, three techniques were applied (root ball transplantation method, staple method and grid method made from degradable material). So, three plots of 4m x 4m each were delimited to transplant 192 clods of seagrass (64 clods per plot), three plots of 2m x 2m were also delimited to transplant 243 young seagrass shoots using the staple technique, i.e., 81 shoots per plot, and three plots of 2m x 2m were also delimited to transplant 243 seagrass shoots using the grid technique. In fact, 678 transplants were planted to the Ifaty site during the 14 fieldwork campaigns for transplantation.

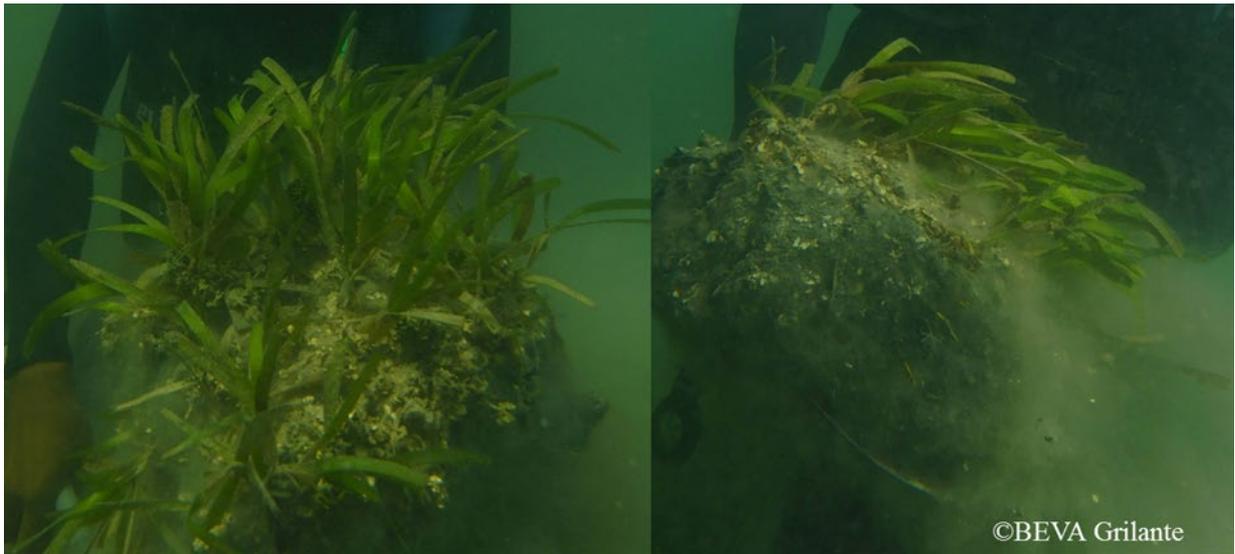


Photo 4: Clods of seagrass (*Cymodocea serrulata*) collected by a shovel

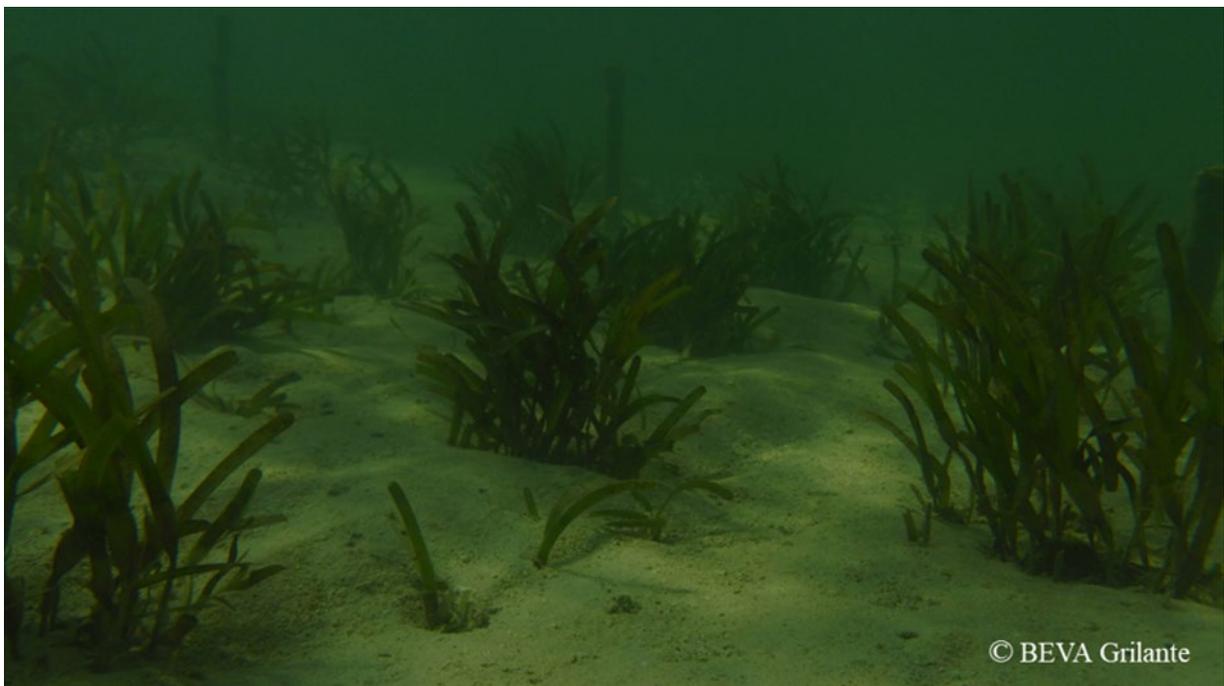


Photo 5: Photo showing the clods of seagrass transplanted by practicing the rootball method



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Photo 6: Transplanting the growth of seagrass (*Cymodocea serrulata*) by the staple technique



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Photo 7: Demonstration of the shoots of seagrass attached to the grid that is made of biodegradable material (bamboo)



Photo 8: Photo showing seagrass plants tied to the grid that are placed and secured with timbers at the bottom

### **2.5. Ongoing and upcoming activities**

The establishment of seagrass transplants in Beravy is currently underway. Thus, the next activity of this project will focus on monitoring of the sites and monitoring of the survival of the established transplants and growth. This will be performed from next month (October).

### **2.6. Problems encountered in carrying out fieldwork**

Some problems were encountered during the implementation of this study.

- The prices of fuel have increased in our country. In fact, this has repercussions on the realization of our research activities and there are and will be changes in the logistic aspects. The cost of travel for fieldwork is also increasing.
- Technical aspect, according to the field reality and also to the changes in logistics aspect, we have made some modifications on the methods. In fact, the number of transplanting stations per site was reduced (one station per site) in order to manage time and budget. But on the other hand, we have increased the area of the transplantation zone compared to the surface mentioned in the proposal.