

Project Update: December 2022

Seagrass beds in Madagascar

The seagrass meadows cover about 0,15% of the surface of the coast in Madagascar. They are among the dominant ecosystems on the west coast of the island. The seagrass ecosystem in Madagascar, as in other regions of the world, is threatened by numerous natural and anthropic phenomena. That is the origin of the reduction of the coverage of seagrass beds. So, the transplantation of seagrass beds is an option for the restoration of this ecosystem. Our project therefore aims to test three techniques for transplantation of seagrass to determine the feasibility of restoring this habitat. It also aims to identify the factors involved in the survival of the shoots (nature of the sediment, physicochemical parameters).

Project realisation during September to December 2022

During the implementation of this project, we plan to transplant 1,356 shoots of seagrass meadows in the Ranobe Bay of southwestern Madagascar. 678 shoots were transplanted from mid-July to August 2022 for the implementation of this project on the first site (Ifaty). Thus, during our campaign in September 2022, we transplanted 678 shoots at the second site (Beravy). During the implementation of transplantation shoots of the seagrass, three techniques were carried out: a technique with sediment in a clump and a technique without sediment using metal staples and wire mesh. In fact, during all the seagrass transplantation campaigns, the total surface area of the transplantation zones was 144 m² (72 m² per site). Thus, the monthly monitoring of the restoration site has been started from October 2022. Until today, three monitoring campaigns have been done on each site. During the monitoring of the site, the counting of surviving shoots, the measurement of biometric parameters (leaf length, total height of shoots), as well as the monitoring of the physico-chemical parameters of the water were carried out. During the first follow-up, 10% of the shoots transplanted on each plot were coded for monthly monitoring of biometric parameters.



Fig.1: Shoot of seagrass transplanted by technique with sediment after one month



Fig.2: Seagrass seedlings secured with a mesh made from degradable material (one month after transplanting)



Fig.3: Monitoring of transplants - Left: biometric parameter measurement. Right: shoot coding for monitoring.

During the training workshop on research for the sustainable management of blue carbon ecosystems in the Indian Ocean, which took place at the IH.SM (Institut Halieutique et des Sciences Marines), University of Toliara Madagascar, from 27th November to 2nd December 2022, our team participated in this workshop. This workshop was organised in collaboration with the Indian Ocean Rim Association (IORA) Secretariat. Many representatives of the countries in the Indian Ocean came to participate in this workshop. During this workshop, we presented the progress of our activities in this project and the preliminary results of our activities. This workshop allowed us to learn about protocols and various methods for the sustainable management, conservation and restoration of blue carbon ecosystems. It also allowed for exchanges between scientists from different regions of the Indian Ocean working on the sustainable management and conservation of the seagrass (blue carbon ecosystem).



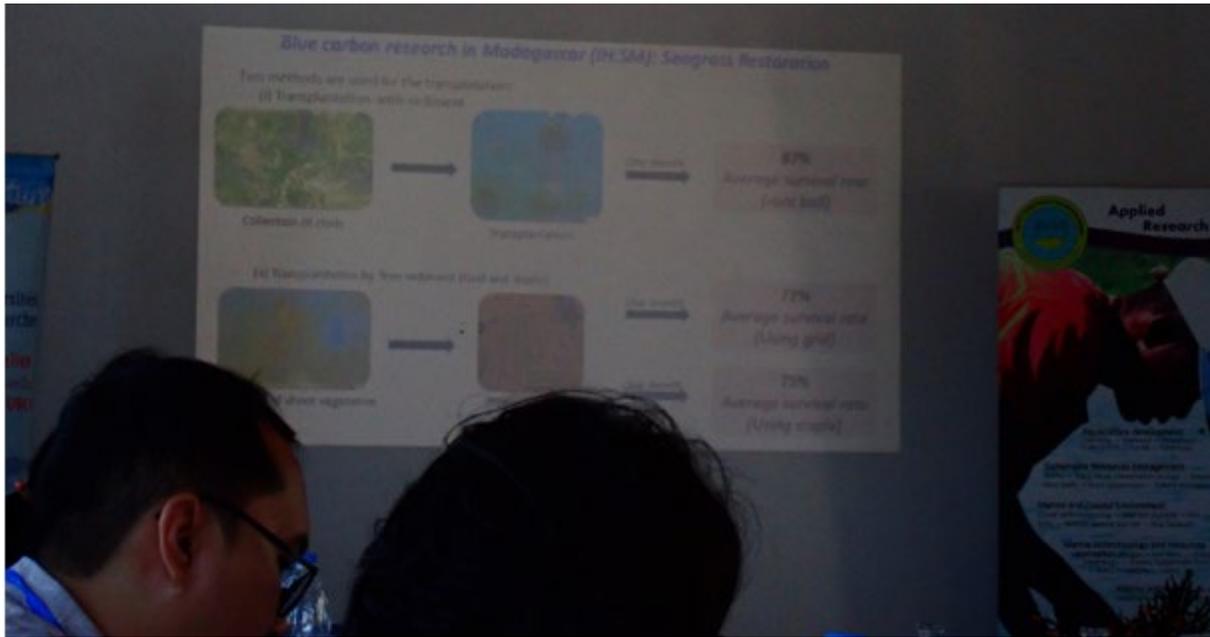


Fig.4: Photo taken during the Training Workshop, top: Speech by the IORA President and bottom: Presentation of the seagrass restoration project by our team.

