

Topics : **Capacity development and outreach**

Poster presentation

From scientific knowledge to conservation action: testing new inputs in children outreach

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Background:

Environmental education is one of the indispensable pillars to amaze, sensitize and give birth to new behaviors among children, citizens of tomorrow. The islands of the Indian Ocean share an exceptional reef heritage that unfortunately deteriorates under human pressure, resulting in significant loss of biodiversity. These ecosystems are, however, a source of many benefits for local fisheries, coastal protection, and the development of recreational and tourism activities. In the interest of all, coral reefs require enhanced protection, coupled with awareness programs to ensure their protection.

Reef protection requires a better knowledge of the ecosystem, as well as subsequent changes in daily behavior. Researchers have shown that there is a real gap between the knowledge gained in awareness programs and the implementation of positive actions on a daily basis. This is even more true for coral reefs, as they are “hidden” below the water surface and therefore difficult to apprehend globally. In this research, we launched a discussion based on our own field experience to identify what is missing in the current outreach programs to overcome the gap between knowledge and conservation action. Our field experiment comes from three islands, La Réunion, Mauritius and Seychelles, with contrasted social and economical contexts as well as major differences in the educative system. Overall, the objective was to develop the program PAREO “The heritage of the Indian ocean’s coral reefs in our hands” to transmit the knowledge from research to children, in an innovative way, which could be exported to any islands in the region.

Methods:

A fieldtrip in Mauritius and Seychelles, was the opportunity to meet the local non-governmental organisations (NGOs). Their experience in outreach program was confronted with this gained from the class interventions in several islands of the Indian Ocean using the with the MARECO educational toolkit developed by the Research Institute for Development (IRD) and this acquired during the implementation of the Educative Marine Areas (EMA) in Reunion.

Results:

We identify four steps that need to be addressed if the goal is to encourage active changes in behavior in sensitized people. These steps are 1) Understanding the functioning of coral reefs to avoid shortcut and inappropriate conservation actions, 2) Connecting him/herself to the environment to link theoretical knowledge to the real environment, 3) Encouraging the passage from knowledge to active conservation by suggesting actions that are feasible at the scale of an individual or a small group, and finally 4) strengthening the links between science and society to radiate the conservation actions up to the decision-makers and inspire others.

We then looked for the appropriate tools to develop each of these steps in a full outreach program. The educational toolkit MARECO has already proved its worth in the Indian Ocean, France and New Caledonia. It seemed particularly adapted to transfer the scientific knowledge on coral reef in an original and fun way. The three educational supports in the kit cover a variety of topics such as biodiversity, the food chain and the use of the reef by humans that help to better understand these complex ecosystems.

To link this knowledge to the reality, we thought of organizing underwater trail on the reef. Yet it may leave aside the non-swimming children and is often limited to the shallow lagoon. Innovative technologies can be a way to bring the reef to the children without getting wet. It is now possible to organise live dive, take 360° video of the reefs and assess the reef structure using aerial view from a drone. The artistic creation is also a way of connecting children to their environment as it helps to look at it from a different perspective. We therefore suggest that a local artist may work with the children to produce a sculpture, a painting or else that will deal with the natural and cultural heritage associated with the coral reefs.

We noticed that few educational supports exist to encourage the passage from knowledge to active conservation. In particular there is a lack of support to understand the impact of overfishing, waste dumping, and soil leaching from the watershed, which are priority themes for reef conservation. We propose to organize a workshop with different stakeholders to build these tools based on existing ones which need to be improved.

Finally, making visible the conservation actions help to strengthen the links between science and society and can be really encouraging. Through children's words, the threats to the coral reef appear much clearer. Furthermore, the management measures proposed by the children encourage each citizen to act responsibly. Our idea was to organize a special day where the children will expose their work and talk to their parents and the local decision-makers on what they learnt and what they suggest for the future.

Conclusion:

This research has allowed developing an original outreach program, which is submitted for funding to Region Reunion (INTERREG), Europe and France, to be tested in the schools of Reunion, Mauritius and Seychelles.