



The CLME Information Management System (IMS) and Regional Environmental Monitoring Programme (REMP).

PARTICIPATORY THREE-DIMENSIONAL MODELLING: A KEY SOURCE OF INFORMATION ON LOCAL AND TRADITIONAL KNOWLEDGE FOR IMS-REMP OF THE CLME PROJECT: AN EXECUTIVE SUMMARY

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The “Sustainable Management of the Shared Living Marine Resources of the Caribbean Large Marine Ecosystem (CLME) and Adjacent Regions” is a GEF funded Project. Its main objective is the Sustainable management of the shared Living Marine Resources of the Caribbean LME and adjacent areas through an integrated management approach that will meet the WSSD target for sustainable fisheries.

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The content of the kit is available online at <http://pgis-tk.cta.int>

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P3DM of the Tobago Island. Source: PPgis.net

*Training of Trainers on the Facilitation of Participatory Three-Dimensional Modeling (P3DM)
Mount St. George, Tobago
September 29th - October 12th, 2012*

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ACRONYMES

EBM: Ecosystem-Based Management

IMS-REMP: Information Management System – Regional Ecosystem Monitoring Program

IOC-UNESCO: Intergovernmental Oceanographic Commission - United Nations Educational, Scientific, and Cultural Organization

CANARI : Caribbean Natural Resources Institute

CTA : Technical Center for Agricultural And Rural Cooperation

ICAM : Integrated Coastal Area Management

CLME: Caribbean Large Marine Ecosystem

P3DM: Participatory Three-Dimensional Modeling

PV: Participatory Video

EXECUTIVE SUMMARY

Stakeholder participation, inclusion of local and traditional knowledge in the development of marine and coastal resource management plans, and the decision-making process are key components of ICAM. Although the importance of community-based information has been recognized, local (often vulnerable and marginalized) communities who depend on marine resources for their livelihoods have generally been excluded from the governance framework and policy cycle.

The CLME Project, which aims for an EBM approach to the management of shared marine living resources of the Wider Caribbean Region, is relying on the IMS and REMP of the IOC-UNESCO, to gather pertinent information on the state of marine and coastal resources and evaluate success levels of governance initiatives at the regional level. In developing the IMS, it has been found that local and traditional knowledge, collected through participatory processes, are particularly lacking in the Caribbean region, revealing important knowledge gaps.

P3DM, an innovative participatory spatial information management and communication tool, has been successfully used to involve local communities in sharing their knowledge to address natural resource management issues and spatial planning conflicts in many developing countries in Asia and Africa. The P3DM method consists of creating a three-dimensional model from scale maps, and using locals' experiences and geographical memories to populate the model. A second phase involves taking high definition photographs of the model and extracting the digital data into a GIS, which allows for storage and analysis of the information.

In light of its international success, it has been suggested that P3DM could become an essential contributing source of data and information to the IMS-REMP and contribute to the CLME Project's success in achieving its key objective. It is in this context that the ICAM Assistant of IOC-UNESCO was invited to observe the first P3DM workshop held in the Caribbean region, which took place in Tobago from September 29th to October 12th 2012.

Facilitated by CANARI, and supported by CTA, the goal of this P3DM workshop was to provide decision-makers with detailed local knowledge of Tobago's coastal resources and issues affecting them to support the development of an action plan to address the impacts of climate change and extreme climatic events. Furthermore, in order to build capacity, and create momentum for an enhanced application of the P3DM method in the Wider Caribbean Region, CANARI and CTA undertook the training of 22 facilitators in the P3DM and PV method.

The primary objective for this mission was to provide an evaluation of the P3DM method in the Caribbean context, and provide recommendations to the IOC-UNESCO on its possible inclusion within the IMS-REMP component of the CLME Project.

Key advantages, conceptual and contextual challenges, and recommendations on the way forward are listed below:

Advantages

- P3DM allows for the collection of high quantity and quality of local and traditional knowledge that can be converted in ArcGIS format.
- The physical model is user-friendly and promotes spontaneous participation.
- P3DM focuses on empowerment through communication, cross-generational information sharing, and builds community resilience.
- The model can easily be modified and adjusted over time.

- Engaging relevant stakeholders to the P3DM can facilitate coordination and collaboration across sectors.
- Build buy-in for the implementation of management plans and governance initiatives.

Conceptual and Contextual Challenges

- The motivation to engage in the P3DM process should come from the community and not imposed by an environmental agenda. Participants have to be clear on how the model can help them and represent a means to an end.
- The preparatory work required to select the area, understand social dynamics, conduct groundwork within the communities, select participants, and organize logistics can be time consuming and may take several months to complete.
- Participants should be responsible for: assembling the blank model, preparing the map legend, depicting the information, handing over the model, and have a central role in the custodianship of the terminated product. Facilitators should not engage in these activities since it can compromise the legitimacy of the model.
- The issue or question at hand should be easy to understand and relate to the participants lives. In this workshop, it was found that “climate change” encompassed too many subjects, covered too much territory, leading to weak or bias information.
- The model, and the information it contains, should remain the community’s ownership and not be readily associated to specific government agencies or management authority. Although the information can be shared through portals such as IMS-REMP, authorization must be obtained and information rights must be respected.
- For the P3DM process to be successful the information provided by the community must be respected and included in the decision-making process at the local level as well as regional. This could be problematic in certain countries in the Caribbean where local knowledge is undervalued.
- There is no evaluation about the level of influence a particular P3DM exercise has on the decision-making process, or on the tangible benefits it produces for the community. If there is no mechanism to demonstrate that local knowledge is in fact being used to inform resource management, community members might become distrusting and refuse to participate in the future.
- The cost associated with the P3DM process may be significant. Although the materials required to build the model do not require significant funds (2000-2500 US\$), logistics and capacity building activities (i.e. training of trainers) can bring a total budget between 25,000-30,000 US\$. Nonetheless, it should be noted that excluding the “training of trainers” component could significantly reduce the costs.
- Due to the sensitivity of the information gathered, some stakeholders might voluntarily exclude themselves from the P3DM process. Also, because of power imbalances between stakeholders, people associated with P3DM can be victims of exclusion, intimidations, violent attacks, and even death.

Conclusions and Key Recommendations

- + P3DM method can provide high-quality information relevant to the management of shared living marine resources in the Wider Caribbean Region.
- + Although this method may not be appropriate in certain socio-political contexts due to security issues, P3DM should be put at the forefront in our efforts to gather local and traditional ecological knowledge within the IMS-REMP component of the CLME Project.
- + It is recommended that IOC-UNESCO support upcoming P3DM initiatives (including in Saint-Vincent and the Grenadines) to promote IMS-REMP and enhance information sharing between actors.
- + Finally, it is suggested to establish relationships with key contacts made at the workshop to strengthen IOC-UNESCO's capacity to work with local groups and enhance its visibility and appreciation of its plans and policies by local communities in the Caribbean region.