

## **ASSOCIATION OF CARIBBEAN STATES (ACS)**

## **CARIBBEAN SEA COMMISSION (CSC)**

### **2<sup>ND</sup> FOCAL POINT MEETING FOR THE PROJECT “*Impact Assessment of Climate Change on the Sandy Shorelines of the Caribbean: Alternatives for its control and resilience*”**

Haeundae Grand Hotel, Busan, Republic of South Korea, 16<sup>th</sup> May 2018

### **RAPPORTEUR REPORT**

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The 2<sup>nd</sup> Focal Point Meeting for the Project *Impact Assessment of Climate Change on the Sandy Shorelines of the Caribbean: Alternatives for its control and resilience* was held at the Haeundae Grand Hotel, in Busan, Republic of South Korea on 16<sup>th</sup> May, 2018. The meeting was chaired by Mr. Alexander Girvan, Programme Coordinator of the Caribbean Sea Commission (CSC) of the ACS and Mrs. Heidy Linares, Project Manager of the Sandy Shorelines project.

The meeting was attended by delegations representing eight (8) of the ten (10) focal point countries. ***The complete list of participants is attached in Annex I.***

### **WELCOME REMARKS AND INTRODUCTION**

The session began with welcome remarks from the Secretary General, Dr. June Soomer, via a pre-recorded video. Dr. Soomer stressed the importance

of the focal groups' cohesive work for the Sandy Shorelines project, as well as the project's aims, namely capacity training in the coming months and the acquisition of equipment.

## **I. APPROVAL OF THE AGENDA AND OTHER MATTERS OF PROCEDURE**

The meeting's agenda was approved without any objections.

## **II. SUMMARY OF THE PROJECT'S PROGRESS**

The Programme Coordinator, Mr Alexander Girvan, indicated that the project's management and development team was complete. He officially introduced Heidy Linares, as the Sandy Shorelines' Project Manager (who was present at the meeting) and Cherise Trotman, as the Project Assistant.

Mr Girvan also indicated that for 2018, the implementation phase of activities for the Sandy Shorelines project has formally started, beginning with participation at the International Coastal Symposium in Busan, Korea. He also highlighted that the Sandy Shorelines project is a first step for future projects that will benefit the countries of the Greater Caribbean, and may offer solutions for coastal erosion and sea level rise, amongst other problems.

## **III. SUMMARY OF ACTIVITIES FOR 2018**

Mr. Girvan briefly outlined the structure of CSC and its membership, and its thematic areas. He provided an overview of the Sandy Shorelines project and its components. Mr. Girvan also provided a brief background of the project's conceptualization and history.

#### IV. FOCUS GROUP

The Project Manager, Heidy Linares started the focal group's session, by outlining the process for this data collection activity. Each focal point and their organisations were introduced.

Dr. Juanes of Cuba's Ministry of Science, Technology and the Environment (CITMA), technical leader for the project, provided a short introduction on the importance of (i) establishing the monitoring network and (ii) its need for standardisation and particularly for long term use 10 -20 years in the future .

The Project Manager then encouraged participants to share the monitoring practices currently utilised in their countries, using the needs assessment survey as guide. A summary of their responses are provided in ***Annex 2: Focus Group - Country Responses.***

#### V. OTHER MATTERS

- ***Preparation of the Rehabilitation Manual and Regional Beach Rehabilitation Conference***

It was explained that a group of highly qualified specialists would be contracted from the Greater Caribbean region and participating the Member States on the project to oversee the preparation of the Rehabilitation Manual. More information on this topic would be provided at a subsequent meeting.

At the end of the project, the main objectives are envisioned to be (i) showcasing the results achieved by the Sandy Shorelines project and (ii) creating the appropriate framework for the presentation and discussion of regional scientific and engineering papers which are being developed in the region to confront coastal erosion, especially the impact of sea level rise. With regards to the conference, it was also agreed to discuss the organisation of the conference further at the next focal groups' meeting.

## CONCLUSIONS AND CLOSING THE MEETING

### Monitoring Network and Equipment:

1. Several of the project's beneficiary countries, currently have a basic monitoring network. However, it is advisable to receive advice on equipment for implementation. As such, it was stated that there are several needs: a) countries, with a monitoring network, that wish to acquire new technologies, but which require advice assistance determining the technology they should acquire according to their needs; and whether they are profitable b) types of related services which are essential, and are not covered: fuel, transport in order to broaden the spectrum of monitoring coverage in their respective countries, c) internal human resources, to be able to perform tasks such as laboratory tasks, or, topographical measurements. The suggestion was made that students could offer support and be granted a stipend (on assessment).
2. It was suggested that it would be advisable to check the list of equipment that was sent to project team from the surveys and possibly be more specific about one's needs: human resource (costs), provision of external services, and equipment that one does not have but is essential for carrying out the work.
3. It was suggested that it would be necessary to assign a "Team Leader", appointed for the duration of the project.
4. For countries currently not conducting monitoring exercises, lending assistance with basic equipment to initiate while also incorporating it with new technologies.
5. Having capacity building on adequate sample collection and sediment analysis.
6. It was also stated that although there are now some countries that have monitoring networks, it would be advisable for countries like Cuba or the Korean Institute of Ocean Science and Technology (KIOST) for example, to be able to suggest new methodologies in field application. (Some examples: laboratory equipment and especially equipment with laser technology for granulometric analysis of sediment samples).
7. It was agreed that with all these considerations, each focal point conduct a quick reassessment of their country's needs: technical assistance, equipment, others and send to the project team.
8. Some countries such as *Costa Rica, Guatemala and Panama* expressed the need for technical assistance in establishing their national network and assistance in better describing the right equipment to start and/or continue their work.

**9. A decision was taken to conduct training activities in Panama.**

This activity will take place in the last week of July 2018. This was decided due to Panama's logistic advantages, accommodation and facilities for hosting large events, as well as being a transport hub.

10. Additionally, it was agreed that Cuban experts (Dr. Juanes + two (2) specialists) will be able to render assistance to Panama for 5 days, advising them professionally in setting up *Panama's National Monitoring Network*.

Aspects related to the training course:

1. The required minimum of participants per country is three (3) persons who under the management of the country's focal points, will assume the management of the project's tasks, follow-up of the monitoring network of morphological and sedimentological variations of the beach profile in response to sea level rise.
2. It has been suggested that each focal point would try to ensure group participation. Ideally they will be able to participate in the courses in Panama.
3. What will be taught in Panama: a postgraduate course, taught by Dr. Juanes Martí, entitled: Coastal processes and methodological criteria for beach recovery (lasting 10 days), and Lourdes Rivas Rodríguez's course - Sedimentology Seminar (lasting 5 days). The same participant or different ones can attend these courses. Having the same participant would mean reduced costs (ticket and accommodation).
4. *The possible alternative is that those who complete the course can repeat it at least once in their respective countries, thus spreading the knowledge and the number of specialists.* Another option is that the original teachers can help to teach the courses directly in the countries that require this. Guatemala and Costa Rica have made a commitment to assessing the feasibility of organizing courses in their respective countries. In this option one must assess if the project could bear the costs of the logistics and the professors' fees.

## **ANNEX 2 FOCUS GROUP – COUNTRY RESPONSES**

### **ANTIGUA & BARBUDA**

**Tricia Lovell  
Fisheries Officer  
Fisheries Division**

The representative from Antigua and Barbuda indicated that they have been monitoring beaches since 1981, and therefore have a range of historical data. However, some of their equipment is outdated. Throughout Antigua and Barbuda they monitor thirty-two (32) beaches, of which twenty (20) have been monitored in Antigua, seven (7) in Barbuda and five (5) on offshore beaches. The data is compiled using fixed reference points which are monitored quarterly (with two (2) or three (3) reference points). The parameters measured are the width of the beach and the angle from the reference point to the first drop in the water. The delegation expressed their hope that with the assistance of the Sandy Shorelines project, they could update their equipment and incorporate new technologies therefore taking Antigua and Barbuda to the next level of coastal monitoring.

### **COSTA RICA**

**Dr Liliana Piedra Castro  
Coordinator of Natural Resources and Wildlife Laboratory  
(LARNAVISI)  
School of Biological Sciences  
National University of Costa Rica (UNA)**

The representative from Costa Rica informed the group that they have worked on the beach monitoring process since 2012. This began with biologists, when it involved more than all measurement of the impact of erosion processes on ecosystems. Some of this monitoring includes measuring the width of the beach, the height of the slope, vegetation behind the dune and its change over time. Sediment traps are also set on coral reefs and sediment is captured. Sand from the dune is collected and they see how in time the size of particles on the dune changes.

Also being monitored are the reef and the composition of marine sponges and their response to the presence of sediment and the process of erosion. This is also applied to fish communities. Work has also been done on the change patterns in turtles and their nesting habits, birds and butterflies (comparative work in areas with erosion and areas without erosion). For this, they have used aerial photographs taken from Costa Rica since 1952. A 2005 analysis was also done in advance with high-resolution satellite images, and they have been able to see the coastlines and their changes over time.

Costa Rica stated that one of the problems they have experienced is the inability to conduct work on all the beaches within the country (currently work is focused only on the Southern part of the country). This is due to budgetary issues relating to transportation (via boat).

## **GRENADA**

**Andre Joseph-Witzig**

**Environment Division**

**Ministry of Agriculture, Forestry & Fisheries**

The representative from ***Grenada*** stated their units monitor thirty (30) beaches on the shorelines of Grenada, Carriacou and Petite Martinique. The delegation revealed that the supervision process is similar to Antigua and Barbuda's with historical data from 1993-2003. The delegation indicated that data collection is difficult, and much of it was done physically and was later scanned. This left a void in information about markers and existing positions at that time. The method of measuring is to mark the permanent reference points using a ½ bar, nailed to the ground (applied to 30 beaches). These were recorded using GPS coordinates and colour markers. The beach profiles were recorded using Topcon automatic levels AT B4 at these points; 200 ft. transect tapes and measuring rods. In addition, visual observations were recorded on the flora and fauna on the beaches, as well as any sociological

factors and photographs were taken of the main features of the beaches and any evidence of the removal of sand. In 2018, an exercise was conducted to attribute the exact rises to a subset of these reference points.

There is need for technical improvement. Antigua and Barbuda stated that at the present moment, processes are conducted manually. They commented that it was difficult to maintain reference points in the same place, unless there is constant monitoring due numerous factors such as a sandstorm. The delegation also agreed with Dr. Juanes' that there are some beaches that do not have sand dunes, and on occasion such locations are often used for the construction of highways or buildings. The country is currently in the process of updating their monitoring network.

They stressed that applying sediment characteristics is not currently performed in studies, and it is something they need to learn, because they are now required to include these characteristics. In addition, the representative stated that they have received advice from Barbados.

## **GUATEMALA**

Coastal monitoring is not currently undertaken in Guatemala.

## **JAMAICA**

**Anthony McKenzie**

**Director – Environmental Management and Conservation  
National Environment and Planning Agency (NEPA)**

The representative from Jamaica indicated that they are currently measuring thirty-six (36) beaches and seven (7) sites. The methodology used for measuring beach profiles involves the use of a topographer's services together with a theodolite to compile data on the width and gradient of the beach. Where: A – the angle of the slope at the measurement point (measured by the theodolite) B – the horizontal distance from the origin to the measurement point (which will be determined). The representative also



indicated that Jamaica carries out monitoring of its shorelines similar to the methods used in Antigua and Barbuda and Grenada. Currently they actively monitor 9 sites (five located on the southern coast and three in the North). Jamaica has been monitoring its beaches since 1980, but unfortunately some of the data has been lost. From the 1990's to present day, local monitoring data has been more consistent, is conducted quarterly. The representative also stated that Jamaica participated in a regional UNESCO project at the beginning of the '90's. Furthermore, if beach profiles are done, they are included in software data along with the volume of change on the beach (data generated on the beach). Currently, they do not routinely take sediment samples.

The focal point also mentioned work conducted with the University of the West Indies (UWI). Six years ago, UWI assessed the features of island sand, providing information on the composition and the characteristics of the grain, and in some places the time and age of the sediment could be determined. "Drogues" are used (for measuring currents). These instruments are constructed using a buoy and aluminium plates that float with the current, then they are drawn; this is because they have no current gauges. However, some environmental and coastal engineering companies have actual gauges available to them. The Drogues are used at different times of the day to measure the change in the current's direction.

Finally, he indicated that Jamaica participated in a World Banks initiative last year and prepared an informative document for coastal management and beach determination which could be useful for this project.

## **PANAMA**

Coastal monitoring is not currently undertaken in Panama.