

**ASSOCIATION OF CARIBBEAN STATES (ACS)
CARIBBEAN SEA COMMISSION (CSC)**

**1ST MEETING OF FOCAL POINTS FOR THE PROJECT
*Impact Assessment of Climate Change on the Sandy Shorelines of the Caribbean:
Alternatives for its control and resilience***

ACS Secretariat, Port of Spain, Republic of Trinidad and Tobago: 28th July, 2017

RAPPORTEUR'S REPORT

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The 1st Meeting of Focal Points 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 ACS Secretariat, Port of Spain, Republic of Trinidad and Tobago on July 28th, 2017. Seated at the head table were Mr. Young-sun Jung, Country Director of the KOICA Office in the Dominican Republic, Her Excellency Ambassador Dr. June Soomer, Secretary General of the ACS, Dr. José Luis Juanes Martí, Researcher at the Institute Marine Sciences of Cuba, Mr. Jesús Guerra Bell, Senior Specialist of the Ministry of Science, Technology and Environment of Cuba and Mr. Alexander Girvan, Coordinator of the ACS Caribbean Sea Commission.

The meeting was attended by delegations representing thirteen (13) Member States, two (2) Associate Members and one (1) Observer Country. ***The complete list of participants to the aforementioned meeting is attached herewith as Annex I.***

I. THE CUBAN EXPERIENCE

After greeting all in attendance, Dr. Juanes noted his pleasure with the pace with which the project has advanced. Following this greeting, Dr. Juanes proceeded to deliver a power point presentation detailing Cuba's experience with coastal erosion monitoring. ***The PowerPoint presentation delivered by Dr. Juanes is attached herewith as Annex II***

Following his analysis of the Cuban experience, Dr. Juanes invited remarks and questions from the floor.

The delegate representing ***Haiti*** expressed her thanks to Dr. Juanes for his insightful presentation, and further, sought to know whether the responsibility for Cuba's macro project

(referred to in his presentation) was held by one Ministry or shared as a synergistic effort among several Ministries.

In reply to the query, **Dr. Juanes** confirmed that the macro project-and efforts to address coastal erosion generally- reflected the different issues concerning the impact of sea level rise, as were thus conceived and implemented across a variety of Ministries.

Moreover, **Mr. Guerra** added that the work being done in Cuba went beyond its Ministry of Science, Technology and the Environment (CITMA), explaining that the country's response to climate change was honed based on a multitude of scientific studies which have been utilized by the Government as the basis for its plans. He then concluded that this concept of science informing policy is reflected in the current proposal as well.

The Coordinator of the Caribbean Sea Commission, **Mr. Girvan** then offered the delegation of Barbados, participating via video conference, the opportunity to greet other participants and to introduce their technical and diplomatic team.

II. PROJECT OVERVIEW

Mr. Girvan delivered an overview of the project with the aid of a PowerPoint presentation. During this time, Mr. Girvan articulated the objectives of the project, its various components, its estimated timeline as well as the funding available for each component.

In concluding his presentation, Mr. Girvan thanked all for their presence at the meeting, and expressed his hope that the event's discussions will tackle the necessary 'hard-hitting' questions. **Mr. Girvan's PowerPoint presentation is attached herewith as Annex III.**

The delegation of **Jamaica** extended its thanks to Mr. Girvan for the information contained in his presentation, and sought to clarify that the project component concerning video monitoring in Jamaica (which is mentioned in Mr. Girvan's presentation) falls outside of the US\$750,000.00 budget for said component.

Following this contribution, the delegation enquired to know which countries have committed to the execution of the project.

To this, **Mr. Girvan** apprised delegates as to which countries had committed, as well as the source of financing for each member state. **The complete list of participating countries is attached herewith as Annex IV.**

III. COUNTRY EXPERIENCES

At this time, delegates were invited to detail the current situation on coastal erosion monitoring in their respective countries. This discussion was meant to supplement the information requested by the Needs Survey, which Mr. Girvan assured would be recirculated to participating countries.

The delegate of **Aruba** extended his thanks to all for the invitation to participate in the day's proceedings and noted that although his country does not presently have an established coastal erosion monitoring system, they do plan for the future development of same. The delegate continued to express his anticipation for the exchange of information throughout the duration of the project which could then assist his country with their development of monitoring methodology through a parallel process to the project. Moreover, the delegate explained that erosion experienced in Aruba has been most significant in the north west of the island, an area popular among locals and tourists.

The delegate of **Antigua and Barbuda** extended her thanks to all present and introduced herself. She advised that the monitoring programme developed in Antigua and Barbuda had been created in the mid 1990's and was initially conducted across twenty-five beaches, with more sites added in recent years as a way to ensure adequate monitoring of the islands of Antigua, Barbuda, as well as the smaller islands and keys. The delegate explained that monitoring has been done on a quarterly basis, and admitted that this is done using rather dated techniques which have not changed much since the genesis of the programme. Finally, the delegate advised that reports, which she offered to share, are prepared every ten years.

The delegation of **Barbados** noted that its country has been profiling their beaches since 1981 with monitoring conducted quarterly. It proceeded to explain that among its intentions of the project is the ability to monitor several new locations. Furthermore, the delegation shared their desire to access new training for profiling, and finally, that Barbados' beaches have eroded at a relatively steady rate of one foot to half a metre per year.

Speaking on behalf of her country's focal point, the delegate of **Costa Rica** conveyed that her country has experienced significant erosion in the southern part of its Caribbean coast, with notable impact on coastal communities as well as turtle habitats. The delegate continued that Costa Rica is in the process of developing adaptation measures to minimize the impact of coastal erosion, a determining factor in her country's commitment to the project. Finally, the delegate noted that studies have been conducted concerning coastal erosion, but concluded that they are very narrow, and do not form part of a systematic monitoring system.

The delegation of **Jamaica** shared that its country has been collecting beach data beginning in the late 1970s, however, consistent data is available from 1987 onward. The delegation proceeded to note that six beaches are currently monitored at thirty-four benchmark beach profile sites. Concerning monitoring methodology, the delegation explained its country's use of

profile measurement consistent with the research of Gillian Cambers, with data available for all six areas.

The delegation mentioned that with assistance from the World Bank, Jamaica has recently completed a '*Coastal Management and Beach Restoration Guideline Document*', and shared its hopefulness that same may be of benefit as the project advances. The delegation stated, moreover, that Jamaica has completed -also with the assistance of the World Bank- a coastal risk atlas. The delegation noted as well that Jamaica's beaches are impacted yearly by hurricanes, especially its southern beaches, but articulated that fortunately beaches are recovering though projections suggest that hurricanes will intensify.

In concluding its remarks, the delegation shared its interest in the potential for the project to determine how the possible impact of climate change, sea level rise, hurricanes and anthropogenic factors on coastal erosion will be distinguished.

The delegate of **Nicaragua** expressed her country's gratefulness to participate at the meeting, noting that although Nicaragua and its climate office have made several efforts where environmental issues are concerned, training remains one of its challenges. The delegate stated that constant monitoring is done in the Caribbean and Pacific areas of the country. Additionally, the delegate referred to challenges with water sources as another issue facing the Caribbean area, though progress has been made through adaptation strategies. The delegate then advised of her country's advances where updated data and land delineation in coastal areas are concerned, and finally, noted her anticipation for strengthened institutional capacity.

The delegation of the **Dominican Republic** expressed its appreciation for the opportunity to take part in this important initiative. The delegation further remarked that it will be taking note of the event's discussion in order to inform national technical experts.

On behalf of **Panama**, the delegate expressed her thanks for the opportunity to participate in a project concerning an issue as salient as climate change. The delegate noted that although her country's technical focal point could not be present at the meeting, Panama remained prepared to assume an active role in the project, and in this regard, offered her country as venue to any future activity for the project if so desired.

The delegate representing **Trinidad and Tobago** advised that the country's Institute of Marine Affairs has been monitoring beaches and bays since 1988, monitoring twenty in Trinidad and twenty in Tobago using standard surveying methods such as beach profiling and the RTK method. The delegate explained that her major concerns relate to other contributing coastal processes and the lack of a comprehensive programme to review currents, waves and factors which cause coastal erosion. The delegate also noted the lack of extensive research on sediment transport as limits to the extensiveness of her country's efforts concerning coastal erosion.

The delegate then mentioned that certain sites are monitored monthly and others monitored quarterly or twice yearly. The delegation stated that at certain turtle nesting sites affected by erosion along Trinidad's north east coast, her country works with communities to build their capacities in order to assist with data collection.

Moreover, the delegate encouraged erosion to be considered from a landward side as well as from the sea, having regard to the adverse effects on local beaches due to hydrological and hydrodynamic changes from the landward side.

In the case of Tobago, the delegate noted the need to assess the ways in which degraded coral reefs may have accelerated erosion along the south-west coast, remarking that near the island's airport erosion has been linked to the degradation of coral reefs and the loss of the sea grass, this, compounded by an invasion of sagassum seaweed.

Finally, the delegate referred to the need for capacity building for monitoring mechanisms in Trinidad and Tobago, especially having regard to local students who simply access data collected by the Institute of Marine Affairs without conducting their own primary research on beaches and bays.

The delegate representing **Mexico** conveyed that he will be pleased to contact the climate change department of Mexico, and stated that his country will continue to participate as the project unfolds.

After greeting all in attendance, the delegate of **Haiti** explained that deforestation of trees and mangroves which serve as a barrier between the sea and land have been important causes of erosion in her country. The delegate advised that the extent of Haiti's environmental challenges have been confirmed by the COP21, with the country named as the 6th most vulnerable to climate change at the summit. The delegation concluded by noting that Haiti does not currently monitor coastal erosion.

Following the reception of a report from capital the representative of **Panama** proceeded to note that the project itself reflected elements of her country's national strategy to fight climate change in its marine and coastal areas. The delegate continued to note that a vulnerability assessment has been ongoing by the Ministry of the Environment in the coastal areas.

Next, the delegate representing **Guyana** shared an overview of the efforts made by Guyana for adaptation and mitigation on the range of issues surrounding climate change; specifying that tidal readings are being monitored at Port Georgetown and more recently at Parika, which have determined the mean sea level as 1.80 meters above chart data. The delegation mentioned Guyana's multilateral and bilateral efforts to address climate change. Furthermore, the delegate noted that 90% of Guyana's population is situated on low lying areas, which underscores the special value of this project to her country and may encourage Guyana's eventual commitment to the project.

Following Guyana's intervention, the delegate representing **Colombia** then introduced herself. The delegate noted that her country has been conducting work on coastal erosion over the past ten years, with its extensive analysis presented in the form of a book. The delegate then shared that at present time Colombia uses satellite imaging to monitor erosion.

Further, the delegate spoke on the matter of considering the most appropriate models for monitoring, and noted that perhaps the models used by Colombia may be useful for participants in the project, especially those which do not yet have established monitoring systems.

The delegate continued to note Colombia's work on marine geology, oceanography and the atmospheric impact on rising sea levels. Finally, the delegate briefly noted Colombia's collaboration with the government of the Netherlands on coastal erosion management, and concluded by expressing her organization's willingness to offer assistance in the execution of the project.

The delegation of **Haiti** intervened once more to explain the current environmental situation facing Les Cayes City, which sits at low altitude between two rivers and is threatened by erosion and other harmful human activity.

Following this, the meeting broke for the **Official Photo** and **Lunch**

IV. DISCUSSION OF COUNTRY NEEDS AND PROJECT EXPECTATIONS

At this time, delegates were invited to comment on their expectations and needs for the project.

The delegate of **Aruba** named the development of a monitoring system as a primary need. The delegate also noted training as an important need. The delegate continued that, though his country is not a member state, it hopes to continue to receive information as the project advances in order to glean the lessons learned from participating countries and to facilitate a system of comparison and learning.

The delegate of **Antigua and Barbuda** noted that this project provided, in the first instance, an important opportunity for collaboration and coordination with other members. The delegate also explained that the project offered paths for Antigua and Barbuda to upgrade and update its current monitoring techniques and equipment as well as to integrate the data collected to the broader Environmental Information System, which is not GIS based.

The delegate of **Colombia** stated that she saw in this project an opportunity to offer training to members who are less experienced in the regard of erosion monitoring, as well as to improve Colombia's knowledge on the subject from Cuba and Korea with the aim of improving their knowledge of oceans and coastlines. The delegate also expressed her hope for the possibility to compare Colombia's experience with the rest of the Caribbean.

The delegate representing **Costa Rica** explained her country's expectations for the project included added training, equipment, regional tools as well as raised awareness through regional discussion based on this shared experience. The delegate highlighted the importance of the network of focal points and researchers and noted the value of learning from the experiences of Cuba and other countries. Finally, the delegate expressed the significance of building capacity so as not to depend on third parties.

The delegate of **Guyana**, noting that her country had not yet committed to the execution of the project, elected to reserve her comments in this regard.

The delegation of **Barbados** noted its interest in observing how remote sensing data can be implemented in Barbados, as well as the training in this regard. Moreover, the delegation offered to assist with training in profile data collection methods considering their experience in this regard. The delegation proposed that based on the disparity in profile development in each country, lands and survey organizations within countries may need to assume a role in the execution of the project. The delegation also expressed its anticipation for access to monitoring equipment and remote sensing techniques.

Dr. Juanes took the opportunity to suggest that although there are various valid and complimentary methods of studying the process of erosion, any method selected should speak to the essential objectives of the project and therefore be capable of assessing the impact of coastal erosion.

The delegation of **Colombia** offered a query on how the project envisaged measuring sea level rise locally, which should be considered part of the examination of the evolution of the coastline.

To this query, **Mr. Girvan** expressed his aspiration that a technical solution to this issue might be achieved.

The delegate representing **Haiti** pointed out that her country's needs included the reduction of its considerable social, environmental and economic vulnerabilities. The delegate continued to articulate her desire for the establishment of a monitoring system with adequately trained staff, and more broadly, for training to be available to all groups with the potential to harm the environment. Thus, the delegate continued, Haiti wishes to establish a research centre for rural development, which can allow Haitian society to effectively adapt to climate change.

Finally, with respect to expectations, the delegate expressed her hope for the establishment of real synergies among participating countries so that best practices can be gathered as well as improved resilience among Caribbean coastal communities.

The delegation of **Jamaica** noted Jamaica's need for training in profile measurement and data analyses. The delegation proceed to mention the need for training with regard to the many

issues which may impact coastal dynamics, taking into account that many coastal engineers are employed in Jamaica's private sector.

With respect to the matter of sea level measurements, the delegation communicated the value of collaborating with other initiatives, specifying that UNESCO has developed sea level stations in a number of countries, and noted that Jamaica is seeking to establish further sea level measurement stations.

The delegation of **Mexico** expressed its anticipation that technical experts will be present at future projects meetings.

Among its expectations, the delegation of **Nicaragua** wished to learn the ways in which members have been able to reach coastal communities in order to improve local capacities.

The delegate noted equipment as another need, making reference to Nicaragua's geodetic network which requires costly repairs and updates. Next, the delegate suggested that perhaps each country could implement its own monitoring methods for scientific reference, which nonetheless, will need to be standardized. In this regard, the delegate also suggested that remote sensing may be used having regard to their advantages in considering coastal developments over time, and suggested further the possibility of combining such techniques using Geographic Information Systems in order to make the best decisions.

The delegate representing **Panama** expressed her country's interest in the implementation of the project and stressed its belief that ties of cooperation will be strengthened through positive technical exchanges both nationally and regionally.

The delegation of the **Dominican Republic** noted that the content of the day's discussion will be forwarded to capital for consideration and necessary follow-up.

The delegate of **Trinidad and Tobago** shared her anticipation for enhancing Trinidad and Tobago's existing monitoring programme to ensure that its methods are sufficiently rigorous, and that data may be collected which are not being collected currently, both of which will assist with vulnerability assessments and determining the necessary migratory measures to be implemented. The delegation stated its agreement with Nicaragua's contribution that methods would indeed need to be standardized for easy comparison.

Furthermore, the delegate questioned which methods will be used for treating, storing and processing data to ensure timely availability for decision making purposes. The delegate then added that whatever method is selected for this three year project, it should be sufficiently low maintenance that it can be continued beyond the three year timeline.

With regard to expectations, the delegate noted that she looked forward to the collaboration on experiences among countries.

Finally, the delegation of **Haiti** expressed the need to establish a database for official access for project participants.

V. DISCUSSION OF PROJECT TIMELINE, DELIVERABLES AND RESPONSIBILITIES

At this time, delegates were invited to discuss the project's projected timeline, as well as to comment on their understanding of their responsibilities.

With a view to maximum efficiency, the delegations of **Trinidad and Tobago and Jamaica** enquired as to the channels of communication throughout the execution of the project.

In this regard, **Secretary General** Dr. Soomer noted that as per established procedure, all communication must be made through the Ministries of Foreign Affairs. It was noted however, that focal points may be copied on such official correspondence, and that correspondence from the focal points may be transmitted to the Secretariat, copied to their respective Ministries of Foreign Affairs.

At this time the delegation of **Jamaica** kindly asked that the Needs Survey be retransmitted.

To this request, **Mr. Girvan** noted that the survey will indeed be retransmitted, and based on the results determined, another survey will be transmitted to glean additional information.

At this time the floor was handed to **Dr. Juanes** for his elaboration on the Cuban Laboratory Techniques Training. Dr. Juanes explained that Cuba wished to prepare an intensive post graduate course called '*Coastal Processes and Methodological Criteria for Beach Recovery*', which will be focused on the issue of climate change. Dr. Juanes continued to advise that the programme will go beyond taught sessions focused on methodology to also include opportunities for discussion on how monitoring networks are conceived and how coastal processes are interpreted. Dr. Juanes expounded that the training has been designed as more than a course but a meeting to facilitate in depth discussion, and suggested that specialists are involved in the process. Dr. Juanes concluded by sharing his hopefulness that as many people as possible may benefit from training, and suggested that perhaps it may be possible for some to pay their way.

Next, the delegation of **Colombia** encouraged that the standardization of methodology be included as part of the timetable to facilitate discussion toward determining methodology which ensures that all data are comparable. The delegate also noted the matter of determining monitoring sites.

Following this, **Mr. Girvan** suggested that a follow up survey will detail which methods are currently being used by participating countries. He continued that in the cases where there are no methods used focal points may begin to propose suitable options. Mr. Girvan then advised

that a key result of the training activity will be the standardization of methodology and the process of reporting.

After being handed the floor, **Dr. Juanes** noted issues with acquiring equipment as well as the varying levels of experience among participating countries as anticipated problems which will therefore impact the ability of some countries to start at the same time. Moreover, Dr. Juanes suggested that focal points can proceed to suggest and propose which points will be monitored.

Mr. Girvan then noted that it might be useful for the incoming project manager, together with the Secretariat to devise an intervention for strengthening existing monitoring networks, as well as one for creating networks where they do not yet exist. In this regard, Mr. Girvan suggested further that it may be useful to couple guidelines for countries who are establishing their monitoring network with frontloading supervisory visits.

The delegation of **Jamaica** concurred with Mr. Girvan's reasoning for a two tiered model for establishing monitoring networks. Further, the delegation asked that the responsibilities of focal points might be elaborated.

To this request, **Mr. Girvan** advised of his intention to detail the terms of reference for focal points once the project manager is contracted.

The delegate of **Colombia** suggested the possibility of scheduling meetings to allow the exchange of best practices for methodology and monitoring to allow countries to learn from each other's experiences.

Mr. Girvan then commended the idea raised by the delegate from Colombia and advised that the possibility of same will be explored with authorities from KOICA.

Next, the delegate of **Trinidad and Tobago** queried whether there will be a central depository once data are collected.

Mr. Girvan noted in reply that the inclusion of a central depository on the project website will be considered.

The delegation of **Jamaica** confirmed that this question of data storage was originally raised during KOICA's visit to Jamaica, and advocated that data gathered may be hosted at the University of the West Indies, Mona, thereby strengthening the relationship between the University and KOICA and allowing the data to eventually become public knowledge.

Spurred by the remarks made by the delegation of Jamaica, **Secretary General** Dr. Soomer referred to the issue of the sustainability of the project, explaining as an example that the ACS' Geospatial Data Project involved the UWI throughout its execution, and upon its completion, saw the equipment given to the University in order assist with the UWI's geospatial mapping. This, Dr. Soomer continued, ensured the continuation of the project by the UWI, and is a useful model for consideration with respect to this project.

Speaking to the same issue, the delegation of **Jamaica** remarked on the involvement of the University of the West Indies since the visit by authorities from KOICA earlier in the year and thus encouraged the integration with the University to ensure the project's sustainability.

The delegation of **Barbados** commended the tiered approach and agreed with the recommendation for standardized data portals for comparisons. The delegate then asked how the project intended to present and share data.

To the remarks made by the delegation of Barbados, **Mr. Girvan** replied that the issue of data presentation was still under consideration, and suggested the possibility of developing two separate forms of data presentation for scientific and policy uses.

Dr. Juanes of Cuba sought to reiterate that the aim of the project was not to study the dynamics of beaches but rather to measure the long term changes to the coastline. Dr. Juanes further elaborated that the research will be conducted to determine occurrences on land rather than at sea. Finally, Dr. Juanes advised that the project does not intend to limit monitoring to twice a year.

The delegation of **Colombia** noted its agreement with Barbados, and proceeded to raise its questions on the procedure proposed. In the first instance, the delegation remarked that three years of monitoring is only a short space of time for studying climate change, especially for countries without any historical data. The delegation continued to note that, especially where some countries were just establishing their monitoring systems, it would be best to consider additional contributing factors and seasonal variations. The delegation also suggested the usefulness of assessing country's existing capabilities which may be useful in the execution of the project activities.

In reply to Colombia's comments, **Mr. Girvan** confirmed that any sort of collaboration among members based on existing capabilities is greatly appreciated. To this end, he shared that the follow-up survey will invite members to detail their respective strengths and offers of collaboration.

Additionally, the delegation of **Antigua and Barbuda** asked to know what would be the next steps following the meeting.

In reply, **Mr. Girvan** advised that the immediate next step will be to prepare a short survey, following which a more detailed version will be developed together with Dr. Juanes and the incoming project manager in order to establish needs for equipment. Furthermore, Mr. Girvan noted in response to the point initially raised by Barbados that countries will be given the opportunity in said survey to determine for themselves which organizations and agencies they wish to include in the execution of the project. Finally, Mr. Girvan advised that another focal point meeting is anticipated for December, 2017, with training activities to begin the first quarter of 2018.

The delegation of **Jamaica** asked Dr. Juanes on the proposed duration of the Post Graduate Course.

Dr. Juanes then clarified that the course has been designed to take place over ten days and will include one week with two compulsory field practices as well as conferences and group work. Dr. Juanes advised that the course will focus on case studies, which will be presented by the representative of each country.

VI. CONCLUDING REMARKS AND CLOSURE OF THE MEETING

In her concluding remarks **Secretary General** Dr. Soomer, noted the value of such technical meetings as this, which improve her own ability to manage the Secretariat's work through relevant and informed advice. She described her takeaway from the day's discussion as multifold and noted that this meeting offered an opportunity for all to appreciate not only Cuba's considerable scientific and policy expertise in the area of coastal erosion management, but also the generosity it has consistently shown its Caribbean counterparts.

Dr. Soomer then expressed her pleasure with the offers of assistance made as well as the sharing of the diverse experiences among participants, describing this diversity as a defining and beneficial trait of the Association.

Furthermore, the Secretary General shared that she was greatly satisfied with the needs assessment conducted, acknowledging the activity as a reflection of the paramount importance of member states' needs. In this regard, Dr. Soomer encouraged the most effective communication to ensure that the message of the project's value is appreciated by vulnerable coastal communities.

Dr. Soomer also articulated her anticipation for regional capacity building, for collaboration with other organizations, for the possible participation of additional member states as well as the development of ways to ensure the sustainability of the project.

In closing, Dr. Soomer explained that this project speaks to the essential role of the ACS to seek shared solutions to common problems, and thus, extended her sincere thanks to the member states for their active participation, and especially, to the Government of the Republic of Korea for their understanding shown to the region in the face of the threat of climate change, for their most generous offer of technical and financial resources.

Following Dr. Soomer's remarks, **Mr. Girvan** thanked all for their attendance and their commitment to discuss a solution to this grave common problem.

With these remarks, the Meeting was officially closed.