



**KOICA**

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**ASSOCIATION OF CARIBBEAN STATES (ACS)  
CARIBBEAN SEA COMMISSION (CSC)  
KOREA INTERNATIONAL COOPERATION AGENCY (KOICA)**

**PROJECT: "Impact of Climate Change on the Sandy Shorelines of the  
Caribbean: Alternatives for its Control and Resilience"**

**CLOSING WORKSHOP  
(IN-PERSON MEETING)**

Conference Room 3, Hyatt Regency Hotel, Port of Spain Trinidad and Tobago

**INTRODUCTION**

The Impact Assessment of Climate Change on the Sandy Shorelines of the Caribbean: Alternatives for its Control and Resilience" Project (aka "Sandy Shoreline") was initiated in 2017 to address the urgent challenges posed by climate change and sea level rise on coastal communities across the Caribbean region. The Association of the Caribbean States (ACS) partnered with the Korea International Cooperation Agency to implement strategies aimed at rehabilitating affected coastlines, enhancing resilience and fostering sustainable practices among Member States. As the project, approached its conclusion, a comprehensive Closing Workshop was requested by KOICA on 6<sup>th</sup> June, 2024 to bring the project to a formal close. Proposals for this initiative were submitted to KOICA on 2<sup>nd</sup> July, 2024 and were approved on 9<sup>th</sup> September, 2024. To successfully execute the workshop several internal meetings were held to ensure that all aspects of the sufficiently covered.

**BACKGROUND**

The initiative focused on establishing a regional erosion monitoring network and disseminating best practices in beach rehabilitation, observation and preservation.

Key objectives of the project included:

- Regional Monitoring Network – establishing a cohesive system for monitoring coastal erosion, facilitating data collection and analysis.
- Beach rehabilitation projects – developing and supervising rehabilitation efforts in economically and socially vital sectors.
- Capacity building – enhancing institutional and human resource capacities to adopt effective legal and engineering practices, alongside creating a tailored beach rehabilitation manual for the region's unique shoreline.

Throughout its implementation, the project promoted regulatory and engineering best practices for erosion management and strengthened monitoring systems for future research. The strategic aim was to reduce coastal vulnerabilities, develop joint action plans, integrate climate considerations into sustainable development strategies, and foster collaboration among Caribbean governments.

Despite the project's successes, several challenges hindered its full realization. Delays in procuring necessary equipment, attributed to global shipping disruptions and the COVID-19 pandemic, complicated project timelines. Changes in focal points within member states led to mismanagement of expectations and loss of technical expertise. Additionally, inadequate communication about the project's value resulted in inconsistent stakeholder support, underscoring the need for improved visibility and awareness.

To capitalize on lessons learned and optimize the project's outcomes, the *Sandy Shoreline Project Wrap-Up: Sharing Experiences and Strengthening Outcomes* workshop has been proposed. This workshop consisted of two (2) components.

**Component 1** – Wrap-Up Workshop will provide a vital platform for project beneficiaries to exchange experiences and insights.

Output 1: An Outcome Document which captures the challenges and successes, insights and lesson learned among stakeholders. The document will include key considerations for the integration of a Regional Erosion Monitoring Network into national plans.

**Component 2:** Enhanced Communications and Public Awareness

Output 2: The production of high-quality content to document and disseminate the activities of the Closing Workshop and to clearly convey the project's value and the value of the Beach Rehabilitation Network to stakeholders. The production of material through the production of testimonials, presentations and photo that will be used for the project website and platform.

The workshop fulfilled several objectives, including facilitating reflection and learning among stakeholders and developing strategic communications to amplify the project's impact and sustainability throughout the Greater Caribbean region.

## **SUMMARY REPORT**

The Closing Workshop aimed to formally conclude the Impact Assessment of Climate Change on the Sandy Shorelines of the Caribbean: Alternatives for its Control and Resilience" Project (aka "Sandy Shorelines"). It seeks to analyse the project's impact, facilitate the exchange of knowledge among key stakeholders, document strengthened coastal resilience and increase public awareness across the Greater Caribbean region.

## **PARTICIPANTS**

### **ACS Delegation:**

- His Excellency Rodolfo Sabonge - Secretary General of the Association of Caribbean States
- Tricia Barrow - Chief Executive Coordinator, Office of the Chief Executive Coordinator
- Cherisse Braithwaite-Joseph - Officer-in-Charge/Adviser, Directorate for Disaster Risk Reduction, Environment and the Caribbean Sea
- Lisa Douglas-Paul - Officer-in-Charge/Adviser, Directorate for Cooperation and Resource Mobilisation
- Safiya Reid - Officer-in-Charge/Adviser, Directorate of Trade, Transport & Sustainable Development
- Patricia Phillip-Boodoosingh - Conference and Protocol Officer, Office of the Chief Executive Coordinator
- Joshua Green Miller - Communication Officer, Office of the Chief Executive Coordinator
- Samantha Snaggs - Administrative Assistant, Directorate for Disaster Risk Reduction, Environment and the Caribbean Sea
- Jonathan Alexander - Research Assistant - Directorate for Disaster Risk Reduction, Environment and the Caribbean Sea
- Jake Salloum - Unit Assistant, Office of the Chief Executive Coordinator
- Jessica King - Unit Assistant, Office of the Chief Operating Officer
- Damiens Nicolas, France Volunteer - Directorate for Disaster Risk Reduction, Environment and the Caribbean Sea
- Woojin Kim - Intern -Directorate of Trade, Transport & Sustainable Development

### **Technical Advisory Group:**

- Dr. José Luis Juanes Martí (Technical Coordinator)

**Focal Point Participants:**

- Antigua and Barbuda - Mark Archibald
- Cuba - Dr. José Luis Juanes Martí
- Costa Rica - Dra. Lilliana Maria Piedra Castro
- Dominican Republic – Bienvenido Santana Ferreras
- Jamaica - Chanel Candice Raynor
- Guatemala - Juan Adalberto Chamo Cardona
- Panama - Katherine Shantall Martinez Hawkins
- Trinidad and Tobago - Christopher Alexis

Note: Haiti could not attend due to administrative issues.

**Member States:**

- Antigua and Barbuda - Kurt Mikhail Williams
- Barbados - Leo S. Brewster
- Dominica - Diana Degallerie
- Guatemala - Juan Adalberto Chamo Cardona
- Honduras - María José Casulá Santelli
- Jamaica - Andre Anthony Reid
- Mexico - Dr. Frederic Herbert Maurice Arthur Thalasso
- Nicaragua - Armando Flores Garcia
- Panama - Katherine Shantall Martinez Hawkins
- Saint Christopher and Nevis - Kharim Trevorn Jamal Saddler
- Suriname - Radjindredath Narain
- Venezuela - Mayi Andrehina Rondon Roa

**Associate Members:**

- Aruba - Dt. Salys Sarah Sultan
- British Virgin Islands - Lynda Adelle Varlack
- Curaçao - Javier A.V Diaz
- Guadeloupe - Trécy Losbar

**GAMMA/CITMA:**

- Pavel Morales Diaz, Cuba
- Isis Hernandez Sosa, Cuba

**KOICA:**

- Daniella Cuevas
- Yong Jeong Kim

**Specially Invited Guests:**Member States:

- Cuba - H.E. Gustavo Daniel Véliz Olivares
- Mexico - H.E. Víctor Hugo Morales Meléndez
- Panama - Ms. Joyra Castillo
- Venezuela - Álvaro Enrique Sánchez Cordero

Associate Member:

- Netherlands - H.E. Lisette Blüm

Observer:

- Korea - H.E. Seijoong Kwon

Host Country:

- Trinidad and Tobago - Senator the Honourable Dr. Amery Browne

**Presenters:**

- Rishard Khan - Project Closeout Coordinator

**CLOSING WORKSHOP ACTIVITIES**

The first day of the Closing Workshop focused on the Overview of Project Development Results, Component Outcomes and Achievements. It focused specifically on Components 1-4 of the Project: Component 1: Establishment of Focal Points for Each Country, Component 2: Institutional Capacity Building and Human Resources Development, Component 3: Establishment of the Regional Coastal Erosion Monitoring Network and Component 4: Development of 3 Beach Rehabilitation Projects.

Day 2 focused on Component 5: Preparation and Publication of Caribbean Beach Rehabilitation Manuel and Component 6: Event: Identification, Protection, Restoration and Management of Caribbean Beaches. It included a presentation of a revised project proposal for Sandy Shorelines Phase 2 (2025-2028) under the concept of Enhancing Future National, Bilateral and Regional Projects for Coastal Erosion.

The Breakout Group Discussion focused on the various components which were guided by preset questions and facilitated the exchange of information on various initiatives. Day 2 concluded with Next steps and potential roadmap for preparing future interventions

**Day 1: Opening Ceremony**

**Cherisse Braithwaite-Joseph Officer-in-Charge**, Directorate for Disaster Risk Reduction, Sustainable Tourism, Caribbean Sea and the Environment opened the proceedings and welcomed all attendees to the Closing Workshop and invited His Excellency, Rodolfo Sabonge to make opening remarks.

**His Excellency, Secretary General of the Association of Caribbean States, Rodolfo Sabonge** opened by making mention of the ACS's 30th Anniversary. He discussed the impacts of climate change on the Caribbean and highlighted the project's role in climate adaptation, expressing gratitude to Korea for its support. The Secretary General also mentioned the Joint Ocean Research Centre, which Korea is helping establish. He noted that a delegation from the Korea Institute of Ocean Science and Technology (KIOST) is currently in Santa Marta for a site visit regarding this centre. He reaffirmed the ACS's commitment to coastal protection and climate resilience through the

work of the Caribbean Sea Commission and emphasised the need to reflect on lessons learned, examining both the challenges and successes of the project to ensure more strategic future initiatives.

**H.E. Seijoong Kwon, Ambassador of Korea to Trinidad and Tobago** delivered opening remarks, expressing gratitude to the Association of Caribbean States (ACS) for its efforts in helping Caribbean nations protect their coastlines. He noted that Korea has been enhancing cooperation with the ACS and other organisations, highlighting the Sandy Shorelines Project (2017-2024) as a key initiative by KOICA aimed at building capacity to combat coastal erosion and safeguard essential resources for the Caribbean. Ambassador Kwon congratulated the ACS on its 30th Anniversary and the successful completion of the project. He expressed hope for future collaborations between the ACS and Korea in areas such as food and energy security, tourism, and supply chain management.

**Deputy Director of KOICA Caribbean Regional Office, Yong Jeong Kim** thanked the ACS for organising the closing workshop and highlighted that the Sandy Shorelines project aimed at enhancing resilience in coastal communities by tackling the effects of climate change and rising sea levels. Yong Jeon Kim expressed optimism for future collaborations aimed at ensuring community prosperity and preserving natural heritage for generations to come.

**Senator the Honourable Dr. Amery Browne** emphasised that the Sandy Shorelines project is a flagship initiative for both the ACS and the Caribbean Sea Commission. Dr. Browne described the ACS as a leader in addressing the impacts of climate change in the Caribbean, noting the region's vulnerability to extreme weather events. This hurricane season alone has resulted in approximately 370 fatalities and over \$80 billion in damages, highlighting the severe costs associated with climate change. The Senator pointed out the injustice of the Caribbean's significant losses despite contributing the least to global carbon emissions. He criticised the ongoing cycle of rebuilding after disasters and noted that while some focus on carbon emissions, others exacerbate the situation. Dr. Amery Browne reiterated the importance of projects like Sandy Shorelines in promoting sustainable beach use, combating coastal erosion, and implementing mitigation strategies crucial for tourism—a major contributor to the GDP of many small islands. With around 115 million people living around the Caribbean Sea, the preservation of beaches is vital for livelihoods and ecosystems. In closing, he thanked the Republic of Korea for its support, expressed hope for a second phase of the Sandy Shorelines Project, and underscored the importance of preserving the Caribbean's natural heritage for future generations, aiming for a region characterised by conversation, prosperity, and progress.

**Cherisse Braithwaite-Joseph** provided background on the Sandy Shorelines Project and its goals and objectives, highlighting the various components included within the project scope. The presentation centred on Components 1-4 of the project Component 1: Establishment of Focal Points for Each Country, Component 2: Institutional Capacity Building and Human Resources Development, Component 3: Establishment of the Regional Coastal Erosion Monitoring Network and Component 4: Development of 3 Beach Rehabilitation Projects.

## **Day 1: Overview of Project Development and Results**

**Dr. José Luis Juanes Martí, Technical Coordinator** of the project, began by providing a general overview of the workshop, aimed at familiarising participants with the content and outlining the agenda for in-depth presentations on technical aspects and focal points. He presented a report generated from the project, which included case studies on beach erosion in the Caribbean, the economic importance of beaches, and the application of regulatory measures to combat erosion. Dr. Juanes emphasised that both natural and human activities contribute to erosion, and while beaches are crucial for Caribbean tourism, the current development model is unsustainable. He recommended establishing a Regional Preservation Programme as a key initiative. He outlined objectives focused on developing best practices and beach rehabilitation in response to climate change. Additionally, he detailed the project's components and activities, sharing a manual distributed to the project's focal points. Finally, Dr. Juanes discussed the methodological criteria for developing the project, noting that each focal point must prepare a National Plan and processes for the Monitoring Network, along with the procurement of necessary equipment to support project implementation.

The presentation provided in depth explanation of Components of the Project:

Component 1: Establishment of Focal Points for Each Country

Component 2: Institutional Capacity Building and Human Resources Development  
Component 3: Establishment of the Regional Coastal Erosion Monitoring Network

Component 4: Development of 3 Beach Rehabilitation Projects

Component 5: Preparation and Publication of Caribbean Beach Rehabilitation Manual  
Component 6: Event: Identification, Protection, Restoration and Management of Caribbean Beaches.

## **Day 1: Project Component Outcomes and Achievements**

Component 1: Establishment of Focal Points for Each Country

**Closeout Coordinator, Mr. Rishard Khan** mentioned this Component included 4 activities:

1.1. The Establishment of Focal Point - baseline for cooperation for success of the entire project. 1.2. Needs Assessment - to avoid redundancies.

1.3. Focal Point Meetings - to ensure consistent and frequent channels of open communication between the participating Member States and the ACS-AEC.

1.4. Establishment of a Technical Advisory Group (TAG) -a group of Technical Expertise meant to provide oversight to specific project activities.

*Screening of the Sandy Shorelines video: Training in Coastal Erosion Monitoring and Management*

Component 2: Institutional Capacity Building and Human Resources Development

**Dr. Lilliana Piedra Castro, Costa Rica**, shared the country's experience dealing with Component 2 and highlighted coastal erosion in Costa Rica and the selection of the beaches for the project. Dr. Lilliana Piedra Castro highlighted Costa Rica's participation in various conferences, workshops and training with technical experts to share experience and knowledge building.

**Juan Adalberto Chamo Cardona, Guatemala**, expressed his gratitude for being a part of the project and expressed the necessity for the data generated from the field work be useful and requested the continued support from the Focal Points as the country is faced with similar problems.

**Bienvenido Santana Ferreras, Dominican Republic** mentioned that the monitoring network was their first focus and capacity building with a key part of this activity. He further spoke on the acquisition of the equipment which was done based on the needs of each focal point. The challenge now is to estimate the losses on the beaches which are also included in their analysis. Mr. Santana elaborated on the pieces of equipment chosen/received by the Dominican Republic and the prosthetic uses of each. There is now space for a lab which was an outcome of the needs of this project and the equipment received, which is now being setup so it can function. Four beaches in the north coast and two in the south coast have been chosen to be monitored which will be done every two months to ensure enough information is collected every year. He further indicated that the data generated will form part of their national statistics under the Environmental Directorate. He also highlighted that through this project, they were able to include two new areas to their portfolio.

**Katherine Martinez, Panama** expressed thanks for her ability to be present at this workshop and presented a timeline of Panama's involvement in the Sandy Shorelines Project which started in December 2016. She further elaborated on the synergies of the project with other activities which took place within Panama.

### **Day 1: Questions and Comments**

#### **Question 1:**

**Cherisse Braithwaite- Joseph:** *Have any new priority areas been identified for capacity building after conducting the initial needs assessment?*

## Responses:

**Katherine Martinez, Panama** responded stating that a dynamic marine study with support from universities used satellite imagery and with the use of the project equipment, Panama was able to do assessments, collect information and identify the areas severely affected. One of the needs is to strengthen capacities with new equipment.

**Dr. Lilliana Piedra Castro, Costa Rica** highlighted the need for human resource training, although they are more trained persons there is still the need for more as well as new equipment.

**Bienvenido Santana Ferreras, Dominican Republic** added that it is imperative to include new elements; rising sea levels and increase in sea temperatures and highlighted that we are all suffering from sargassum which is related to coastal erosion, sargassum beach cleaning efforts contributes to the coastal erosion.

**Juan Adalberto Chamo Cardona, Guatemala** expressed the need for increased technology such as drones to facilitate monitoring.

## **Question**

**2:**

**Andre Reid, Jamaica:** *inquired about the types of softwares and challenges with data collection via drones vs in field data collection.*

## Reponses:

**Juan Adalberto Chamo Cardona, Guatemala** stated that it depends on the training of the person and before doing drone flight you must have GPS equipment and have a reference point for the drone and adjust data accordingly.

**Dr. Lilliana Piedra Castro, Costa Rica** noted that drones for field work allows for good precision and while it is a bit tedious and expensive, field work remains important to see the areas being affected.

**Bienvenido Santana Ferreras, Dominican Republic** responded that even though drone technology is useful, there is preference to do field work.

## **Question 3:**

**Christopher Alexis, Trinidad and Tobago:** *What measures can communities take to mitigate the short-term effects of coastal erosion?*

**Dr. Lilliana Piedra Castro, Costa Rica** highlighted the challenges faced by coastal communities, noting their lack of power, technological, and economic resources to effectively address these issues. She pointed out that some communities are forced to relocate their wells to access fresh water due to saltwater intrusion, while many are losing

homes and gardens to rising coastal waters. Dr. Piedra emphasised the need for sustainable measures to alleviate the burden of constant adaptation decisions, as these challenges threaten the cultural identity of Costa Rican communities. She expressed concerns about the potential displacement of individuals from the areas where they were born, underscoring the urgency of addressing these vulnerabilities.

#### **Question 4:**

**Mr. Rishad Khan, Closeout Coordinator:** *How have these training sessions helped and have you learnt from each focal point unique experience?*

**Bienvenido Santana Ferreras, Dominican Republic** noted that the Dominican Republic learnt a lot from Costa Rica and university projects and have applied strategies learnt to their management of the issue and have had great results.

**Dr. Lilliana Piedra Castro, Costa Rica** emphasised the importance of collaboration throughout the project. She noted that the various meetings provided valuable opportunities for exchanging experiences and receiving feedback, fostering a strong sense of community among participants. She highlighted that the relationships developed during this project extend beyond its scope, contributing to ongoing communication among focal points. Dr. Piedra underscored that maintaining these connections is crucial for the project's success and should not be overlooked as it enhances collective knowledge and support.

#### **Day 1: Project Component Outcomes and Achievements (continued)**

Component 3: Establishment of the Regional Coastal Erosion Monitoring Network

**Mark Archibald, Antigua and Barbuda, began** his presentation by discussing Crabb Hill Beach and the significant changes observed since the project's inception. He noted that local business owners, particularly those operating along the beach, expressed strong interest in the project, recognizing the critical issue of erosion. Archibald highlighted the positive impacts of the beach monitoring program, including a more comprehensive analysis of data collected. He emphasised the value of participating in the postgraduate course on "Coastal Processes and Methodological Criteria for Beach Recovery" and various workshops, which he deemed invaluable. He mentioned that the newly procured equipment has the potential to transform efforts in Antigua and Barbuda. However, he also acknowledged challenges faced during the project, particularly concerning personnel limitations, cooperation with agencies, and the need for hands-on training with the equipment. Archibald expressed hope for future collaboration with the GAMMA team to facilitate field training, enabling practical use of the equipment to enhance project outcomes.

**Isis Hernandez Sosa, Cuba** expressed gratitude to the audience for participating in the workshop, emphasising the importance of sharing experiences to benefit other countries. She highlighted critical criteria used for selecting beaches, which were essential

for establishing the project in Cuba. She noted that Cuba's history with similar projects dates back to the 1950s, showcasing the potential impacts of climate change. The selection process was informed by existing data inventories from previous projects. She described various Cuban beaches, including Cayo Cruz, and discussed the development process achieved through 11 years of monitoring this particular beach. Through this monitoring, they assessed the effects of a Category 5 hurricane on marine life, notably after Hurricane Irma in 2017. This experience provided invaluable data that would not have been possible without the event. However, she noted challenges in ongoing monitoring due to accessibility issues. The data collected enabled them to measure erosion and develop a tailored response plan for beach conditions, enhancing preparedness for future disasters. The Sandy Shorelines project facilitates the standardisation of methods and procedures for monitoring coastal erosion across the region, utilising the equipment provided.

**Chanel Raynor, Jamaica** provided a background on the beach monitoring which occurs in Jamaica started in 2000. The video monitoring system which was installed in the Hellshire Beach was analysed and explained to show how it operates and collects data. She showed the progress of erosion which was experienced on the beach where the (VMS) was installed. Training was done in Korea to learn how to use the software which is being used to stitch the collected data together. She explained how the data collected is analysed and showed the trends noticed from August 2022 - December 2023. Sargassum was named as one of the issues that influenced the collection of data due to it obscuring the vision of the coastline. Additionally, the cost of maintaining the tower is another challenge experienced i.e. utilities and compliance with the Jamaica Civil Aviation Authority and routine maintenance. Ms Raynor was able to provide a projected expenditure each year for the maintenance of the tower which is US\$12,692.31 annually. She briefly mentioned the lessons learned which will be further explained tomorrow. She showed how the (VMS) has been used as a management tool by providing real-time monitoring of coastal erosion. Jamaica's next steps are to engage stakeholders.

**Christopher Alexis, Trinidad and Tobago** shared his experience being part of the Sandy Shorelines project through the involvement of the Institute of Marine Affairs. Before the implementation of the project, they would have had monitoring activities occurring. Through the Sandy Shorelines Project, Trinidad and Tobago was able to establish 18 additional monitoring stations. The limitations taken into consideration for the selection of beaches were mentioned i.e. the accessibility of the beach, the difference in terrain and the approvals which would have been required. Data collected through the equipment received were as follows:

- Littoral data/nearshore
- Beach profiles
- Grain size

- Drone imagery (issues pertaining to no-fly zones which prohibits the flight of drones in areas where data may need to be collected)

He further stated that through the usage of the drones, they would have been able to attain a beach profile in places where may have been historically inaccessible to humans. The drone has removed limitations to the collection of data.

The Bonnasse Report, completed by GAMMA/IMA team, was mentioned. This report included numerous recommendations He mentioned that their future plans are to expand training to different aspects within different agencies throughout Trinidad and Tobago.

### **Day 1: Questions and Comments**

#### **Cherrise Braithwaite-Joseph started the Q&A section with the following:**

##### **Recommendations on dealing with private lands -**

**Ms. Chanel Raynor, Jamaica** responded using their experience which was a fishing beach which was owned by the fishing cooperative and stated that avoiding private lands would be the recommendation. Using town land will be better due to most persons are part of the government. She further recommended that all stakeholders are included in the decision making from the beginning so that all parties feel heard and seen.

**Christopher Alexis, Trinidad and Tobago** stated that they engaged persons from inception of the project and showed the benefits of what is being done.

**Pavel Morales Diaz, Cuba** expressed gratitude to Antigua and Barbuda and mentioned the concern pertaining to the equipment received. He further stated that proposals have been drafted where they will be able to provide beach diagnostics to do joint work with agencies to assist with an action plan for beach monitoring. He extended the question to all where there may have been a challenge pertaining to the use of the equipment and stated that part of the project being planned in the second phase, for other entities who need support, they will be able to assist, and this should be considered.

**Christopher Alexis, Trinidad and Tobago** agreed that once the agency is able to support the capacity, he endorses this suggestion stating it will only benefit the region.

**Bienvenido Santana Ferreras, Dominican Republic** inquired about efficiency analysis pertaining to drones and towers i.e. have there been comparisons. Additionally asked about the legal basis of using these bases and analyses.

**Christopher Alexis, Trinidad and Tobago** stated that at the moment there is a project being drafted pertaining to the use of different drones etc which will be able to show the

pros and cons of the equipment available. He further stated that the only legal challenge experienced will be the no-fly zones which exist in Trinidad and Tobago.

**Mark Archibald, Antigua and Barbuda** stated that they have also had a similar experience with the no-fly zones which prevent them from monitoring the beach closest to the airport. This is a challenge he stated is being worked out with the airport authority and the drone manufacturer.

**Chanel Raynor, Jamaica** added to the discussion talking about their experience with the drone training which was facilitated in Jamaica. If they notify the airport 24 hours before, they are able to access the area, so this has been rectified for their situation. She further mentioned the literature available and the information within them giving guidelines. In Jamaica, most sites are resorts which may not want them to fly drones over their properties but there would have been provisions; nude beaches however would have to be excluded for privacy restrictions.

**Dr. José Luis Juanes Martí, Technical Coordinator** mentioned that everything mentioned was stated within the project and he hopes that their use can be expanded. Monitoring sedimentation is another important area of monitoring which should not be neglected. He stated that new persons will be joining the project and there will be continued conversation through the focal point network. He mentioned Cuba's experience using drones for monitoring data and endorsed its effectiveness in monitoring beaches.

### **Day 1: Project Component Outcomes and Achievements (continued)**

#### Component 4: Development of 3 Beach Rehabilitation Projects

Explanation of the conceptual framework and outcomes of the executive projects by Gamma S.A (Cuba)

**Pavel Morales Diaz** presented on behalf of GAMMA which conducted the investigation on 3 beaches throughout the Caribbean. He began by sharing the pictures which would have been received before their final decision making. He stated that due to these issues, this further endorses the need for a continuation of this project because the problem still exists. He stated that in his presentation he will focus on the methodology and how this methodology was applied.

He went through the methodology which was used for designing the project. Viento Frio was first analysed showing the study area, physiological and geographic characteristics. The process was also outlined for Bonasse Bay, Trinidad and Tobago. Runaway bay was also shown, the processes that were followed throughout the examination of this beach in Antigua and Barbuda. The hydrometeorological regime of all the locations were shown of waves and winds.

The causes of erosion were also examined, both anthropogenic and natural origin.

Presenters:

### **Focal Points**

**Christopher Alexis, Trinidad and Tobago** presented on Bonasse Bay which is located in Trinidad and Tobago. He was allocated the project manager for this mission to ensure that the project execution was flawless. He examined the different areas of the project outlining what was done in each area i.e. field work, laboratory work. He highlighted the benefit of being able to learn from Dr Juanes' knowledge, there was improved project management, conflict resolution and networking/partnerships were also identified as benefits of this exercise.

**Katherine Martinez, Panama** listed the main results of the project which were sediment sampling on the beach and granular analysis to determine sand deposits and that the main objective was to outline the deposits so that there can be real time monitoring of Panama's coasts. She further stated that the equipment received will be of great use for the monitoring of coastal erosion.

**Mark Archibald, Antigua and Barbuda** indicated that there was no presentation however he is in a position to share on the foresight for Antigua and Barbuda. It was also stated that he is in constant communication with Dr Juanes and Pavel throughout the process who were able to feed them adequate information pertaining to gaps that existed in the data. The gathering of information was the main part of the project. He further mentioned that some of the challenges that were faced were sometimes taken for granted but going through the process brought some of these issues to light.

**H.E. Rodolfo Sabonge, moderator** for the session, began by reinforcing the challenge being faced by climate change. He further stated that this monitoring is more of a maintenance activity. He further stated that further to the publishing of the guide, there is still more to be done. He believes that there should be public policy on zoning, however all solutions must be comprehensive and the human aspect of the project. It was also st

Training, Capacity Building, Diagnostic and the implementing of the beach monitoring system. GAMMA was invited to add to the discussion if they were inclined to share any further information.

**Dr. Jose Juanes, Cuba** mentioned that there are 3 bases where this can be done. He mentioned that worldwide there are different beaches and they are obligated to provide the information that is necessary. In the future he believes that this is something that should be considered when designing the project. He further mentioned legislation on coastal management which was a finding of the project mentioned earlier which was done in 2003. It was stated that this is a gap which will affect how they can respond. Lastly the engineering solution will determine what solutions exist for their problems. A philosophy for the Caribbean on beach rehabilitation will also be a solution to this problem being faced in the Caribbean.

**The Secretary General** invited the other members of the audience to add to the discussion or ask any questions associated with the discussion.

**Mark Archibald, Antigua and Barbuda** added that sometimes the solutions may not be difficult. However, educating the stakeholders, property owners (persons with the most to lose on the beach) He provided an example with a beach where there was accretion on a beach.

**Leo Brewster, Barbados** shared their experience as well dealing with private properties which he believes are usually a hard sell when trying to explain the benefits to them for the work that should be done. He stated that they need to give considerations for using engineering to anchor sand onto a beach while trying to convince the authorities that the sand will not move should there be a storm.

**The Secretary General** mentioned that persons usually expect the government to come in to fix a problem which was caused by the persons when there are storm surges. He further enhanced the need for predictive maintenance which is based on the premise of planning for what is likely to happen which can be done through a continuous process of maintenance and evaluation.

**Javier A.V Diaz, Curacao** intervened to share their experience as well which was viewed from the tourism aspect of erosion and its effects. Most buildings being built close to the coastline have the issue of wave waters. He also mentioned he will be speaking to GAMMA about dealing with sand pools which will deal with an issue which was also mentioned by Barbados. This will also be met with challenges because there is the risk of bringing in diseases with imported sand, but he believes something can be done.

**The Secretary General** stated that with AI there will be the possibility to arrive at a solution much faster than usual.

**Juan Adalberto Chamo Cardona, Guatemala** stated that where they are working on this project there are protected beaches which may prevent them from collecting the data. He believes that they will need to convince the economists in including policies to deal with some of these issues. He stated that this Workshop has been a good resource for him which he will be able to take back to Guatemala.

**Trécy Losbar, Guadeloupe** indicated that there weren't many interventions about the role of mangroves in dealing with coastal erosion. She gave an example of actions being put in place to plant mangrove trees due to its ability to keep sand in place and prevent coastal erosion.

**The Secretary General** indicated that at the Cooperation Conference there was the mention of Mangroves as a solution. He mentioned COP16 where there will be an agreement signed with WIF. He invited Cherisse Braithwaite-Joseph to further comment on this project.

**Cherisse Braithwaite-Joseph** further commented on the WIF project with mention of the MOU which has been circulated and its ability to foster further conversation among member states.

**Dr. Juanes** mentioned that there will be consequences of any solution however the challenge is to find a solution which presents the least challenges. He further explained that although mangroves are an amazing solution he has not seen any cases where planting mangroves have been a feasible solution to the issue. He believes that each situation will require a specific solution.

**Dra. Lilliana Maria Piedra Castro, Costa Rica** believes that the planting of mangroves can be done once the area allows. They have done studies with the communities who are currently planting and sowing mangroves however they do not possess the geomorphology to support this solution. There may be situations that may not be able to support the development of mangroves.

**The Secretary General** summarised by stating that there are different patients with different diagnoses and require different medicines. This therefore shows that there are different solutions that are required for each situation which is science. He then proceeded to end the session

Screenings:

Coastal Zone Tourism (6 minutes)

Return to Paradise (15 minutes)

Examples of beach rehabilitation projects in Cuba.

## **Day 2: Project Component Outcomes and Achievements (continued)**

**Lisa Douglas Paul, Officer-in-Charge, Directorate for Cooperation and Resource Mobilisation** opened the day's proceedings introducing herself, thanking all for their presence and providing a review of the previous day's discussions. She then introduced the prospective discussions that the audience will be expecting.

### **Component 5: Preparation and Publication of Caribbean Beach Rehabilitation Manual**

**Technical Coordinator of the project; Dr. Jose Luis Juanes and Mr. Rishard Khan**

**Rishard Khan, the Project Closeout Coordinator**, began his presentation on Component 5, noting that it builds upon the foundation established in Component 1. He outlined four key activities related to the publication, which he briefly explained to set the stage for Dr. Juanes' upcoming discussion. Subject matter experts from the Technical

Advisory Group were engaged to compile the publication, which Khan believes can serve as a best practice manual for the region. He discussed the guidebook, intended for distribution to focal point countries, and mentioned that it can be downloaded via a provided link. Khan also introduced a social media campaign aimed at raising awareness of the project and described an Online Platform where focal points can share accessible information, including the guidebook and emergency contacts for each country. This initiative aims to foster discourse among countries and improve data accuracy. Additionally, Khan shared an example of data collected per beach in Trinidad and Tobago, expressing hope that the online platform will continue to evolve and be utilised across the region. The website link will be sent to participants after the workshop for further engagement.

**Dr. José Luis Juanes Martí, Cuba** expressed his gratitude for the presence of KOICA officials and Korean delegates and proceeded to explain the process behind the publication of the guidebook. He regretted that the Technical Advisory Group could not attend the conference, as their collaboration was essential. He introduced the group members and outlined the purpose of the guidebook, which aims to serve as a comprehensive resource for the Caribbean. Dr. Juanes highlighted the necessity of this guide amid the numerous existing manuals, explaining that it focuses specifically on the Caribbean context. He shared details about Chapter Two, his contribution, and briefly summarised the other chapters authored by colleagues. He invited questions to foster discussion. In his remarks, Dr. Juanes emphasised the definition of a beach and its components, referencing the Netherlands as an example of innovative coastal management. He noted KOICA's request for specific chapters, underscoring the collaborative learning experience throughout the project. He reiterated that the Caribbean has numerous beaches, each worthy of exploration. Finally, Dr. Juanes included definitions of dunes as part of the beach profile and provided examples of Caribbean coastlines facing erosion due to rising sea levels, explaining the dynamics of beach formation and assessment of erosion risks.

#### **Component 6: Event: Identification, Protection, Restoration and Management of Caribbean Beaches, Cherisse Braithwaite Joseph, OIC, DDTCE**

**Cherisse Braithwaite Joseph, OIC, DDTCE** introduced her presentation on IPREM drawing the attention to the badges which carry the logo of the event. She stated that this was meant to take place in 2019 but due to delays it was done in 2023. She provided an overview of the three (3) day conference and the themes discussed each day in Panama. The round table discussions which were held by the TAG, she further mentioned that persons were invited to submit abstracts which formed the basis by which persons were chosen to present at the Conference.

The agenda of the conference was shown however, persons were reminded that a copy of the presentation will be shared after the Workshop. The Social Media winner was also mentioned who would have been chosen to participate at the Conference which brought

a youth aspect to the discussion. This month was also World Oceans Month where there was a social media blast which also promoted the IPReM Conference where she mentioned the videos which were curated sharing small videos speaking on different topics pertaining to the subject area.

**Mrs. Braithwaite-Joseph** further showed highlights of each day of the Conference providing more in-depth information of the discussions which would have taken place in each section of the Conference proceedings. She then concluded by providing a summary on the successes of the Conference. It was mentioned that it was an opportunity to share best-practices which would have been seen throughout the region.

**Lisa Douglas-Paul** further opened the floor for questions on Components 5 and 6. There being no further questions on the topics discussed, then moved to the break which will precede a presentation from Dr Juanes.

## **Day 2: Enhancing Future National, Bilateral, and Regional Projects for Coastal Erosion Management (continued)**

Presentation of a revised project proposal: Sandy Shorelines Phase 2 (2025-2028)

**Dr. José Luis Juanes Martí** introduced the components of the new project proposal, developed in collaboration with the Technical Advisory Group and Ms. Ana Leticia Ramirez Cuevas. He indicated that this proposal is rooted in Chapter 7 of the manual and will guide the project's focus. Dr. Juanes elaborated on key project elements, including annual reviews of the project timeline and quarterly assessments to track progress. He emphasised the importance of incorporating local examples to ensure tangible outcomes from the research. Additionally, he highlighted the necessity of training for participants to effectively utilise the equipment received, suggesting that this training should encompass data interpretation during capacity-building exercises across all participating countries. He advocated for the inclusion of universities to engage future users of the information. Dr. Juanes also recommended the continuation of the online platform to maximise the benefits of shared information. He concluded with an overview of the components of the Sandy Shorelines 2 Project and the monitoring structure to be implemented throughout its various phases.

## **Day 2: Questions and Comments**

**Diana Degallerie, Dominica** asked if this is only limited to the participants of the first one or will it be open to other countries. Dr Juanes clarified that he would like to increase to at least 10 more countries but ideally the entire membership.

**Chanel Raynor, Jamaica** inquired about the manual component for Phase Two of the Sandy Shorelines Project. In response, Dr. Juanes explained that he anticipates the manual will be updated in conjunction with the annual online reviews and new results

from Phase Two. While he cannot specify its final form at this stage, he committed to further discussions as the project progresses.

**GAMMA** suggested that since 4 and 6 have so many points in common, they can be merged and would like the conference to be held in a country that had success in the first phase.

**Cherisse Braithwaite-Joseph** interjected to mention that in the breakout groups, there will be further discussion on each component.

**Dr. Lilliana Peidra, Costa Rica** raised questions regarding the participation of stakeholders from the first phase of the Sandy Shorelines Project, specifically their contributions and the status of previously completed work. She suggested that rather than having only one conference, which could span 5 to 6 years, it would be beneficial to organise two events. Additionally, she emphasised that funding should not solely rely on KOICA; instead, participating countries should also contribute to hosting these meetings.

**Dr Juanes** clarified that the countries that took part in phase 1 will continue to be part of the project and that they will support the work of the new countries. When speaking of the focal point countries it was mentioned that there should be a meeting focal point for phase 2 to confirm everyone's participation. Pertaining to equipment, it will be for both focal point groups and it is possible that new countries may have more benefits from this phase than previous because they will receive new equipment. However, it is important that both the old and new participate in it.

**Cherisse Braithwaite-Joseph** endorsed the statement made by Dr. Piedra pertaining to the frequency of conference which will also be considered at a later date.

**Leo Brewster, Barbados** expressed concern about the continuity of the project however, the areas of continuity and support at the national level. He believes that this would look like a project driven initiative where there's the project then it dies, however he believes the ACS should reach out to governments to show the importance of these projects. He believes that without this there will always be human resource shortages. He suggested that the use of the University students should be considered to fill this gap in the lack of entities to participate and provide data that is reliably sound that can be used in the future.

**Lisa Douglas Paul** spoke to this concern as the DCRM OIC which is where projects usually die. Cherisse Braithwaite-Joseph added that the discussion is fully endorsed and will be properly ventilated and documented within the document which will be the outcome of the proceedings today.

## **Day 2: Breakout Group Discussion**

Component 3: Establishment of the Regional Coastal Erosion Monitoring Network

**Cherisse Braithwaite-Joseph** made an announcement for the separation of groups into breakout groups which will discuss the component of the project. She further stated that this will be aimed at what was learned and how it can be made better.

## **Day 2: Presentation of Breakout Group Discussions**

### **GROUP 1 - Costa Rica - Dr. Lilliana Piedra Castro [Component 1&2]**

In her presentation, she addressed concerns regarding technical participation in projects, highlighting that many individuals are often unaware of invitations for involvement. She emphasised the importance of maintaining contact with officials to ensure awareness of opportunities for phase 2. She proposed establishing clear guidelines for selecting technical focal points, suggesting that these individuals be trained by two representatives to enhance their capabilities. She called for a collaborative approach, encouraging countries that missed phase 1 to leverage existing expertise for drafting work plans focused on monitoring beaches and coastal erosion. To maximise contributions, an analysis of human resources in each country was recommended to identify expertise that can support the project. Training in Coastal Processes and Sedimentary Courses should be conducted in labs to assist with compiling equipment lists, with experienced countries offering support to those in need.

The idea of providing internships for young scientists was also suggested, ensuring ongoing training on relevant issues. Additionally, participating countries were encouraged to share their experiences for mutual learning. She advocated for involving secondary and tertiary students to cultivate scientific interest in coastal erosion, emphasising the importance of hands-on training with equipment. Model communities could be established in each country to enhance local engagement and strengthen existing datasets on coastal erosion.

### **GROUP 2 - Jamaica - Ms. Chanel Raynor [Component 3 & 4]**

This group consisted of mainly of countries that were not a part of the Sandy Shorelines Project (Phase 1) i.e turned into a needs assessment

1. Community consultations to assess the needs of the project. This will be used to assess the effects of the Sandy Shorelines in their country
2. Assesses the needs of each country to clarify the needs of each country and to appeal to those needs.
3. A monitoring network was highlighted as one of the needs in each country

Participating countries wanted the ability to build on the knowledge already received and training for the equipment already received.

There was one participant that did not have a sandy shoreline and highlighted that wetland restoration works are needed. She inquired about the ability to accommodate this country that does not have a sandy shoreline but experience other issues associated with climate change.

Interest was also expressed in the post graduate programme. There was also an echo of the HR issue within the country and the relevant body to approach to deal with the Sandy Shorelines Project therefore there is no body to deal with these issues. It was stated that there is room for the project to be useful in this area to assist with establishing this.

Countries have also identified areas where GAMMA can do assessments and recommendations based on previous assessments. To expand the manual to include how coastal erosion affects ecosystems and the cost of doing interventions along the coastline.

### GROUP 3 - Trinidad and Tobago - **Christopher Alexis [Component 5&6]**

The group focused on enhancing involvement in the project by targeting a broader demographic, specifically secondary and tertiary students. The idea is to engage the younger generation to raise awareness and promote passion for community issues. Collaboration with lecturers was recommended to facilitate the use of a guidebook across their networks. Strategies for improving community engagement were discussed, emphasising that greater involvement would foster a deeper connection to local challenges and empower participants to act with appropriate guidance. The application of the recommendations outlined in the guidebook, particularly in adaptive management and sustainable practices, was highlighted, with a call for incorporating feedback mechanisms for future iterations. Nature-based adaptations were also encouraged, along with increased capacity building to create a centralised repository for data generated throughout the project. This would lead to a collaborative platform that extends beyond email communication. CBJ noted that this platform could serve as a networking tool, drawing on experiences from events like those organised by EY to build relationships for future initiatives. Additionally, the implementation of Standard Operating Procedures (SOPs) was emphasised, allowing future teams to reference past work for guidance on similar projects. Incorporating videos with the SOPs could reduce costs associated with training, while establishing a database of trainers would leverage existing expertise. Component 6 highlighted the importance of communication throughout the process, advocating for localised solutions in conservation efforts. The group suggested using platforms like LinkedIn to foster discussions among countries and recommended integrating rehabilitation efforts into national policy frameworks to enhance sustainability.

## **Day 2: Enhancing Future National, Bilateral, and Regional projects for Coastal Erosion Management (continued)**

**Ms. Safiya Reid, moderator** invited the focal points: Christopher Alexis, Chanel Raynor and Dr. Lilliana Piedra to discuss this topic.

### Future Enhancements:

*Question 1: What innovative approaches or technologies could be introduced to improve the effectiveness of each component?*

**Chanel Raynor, Jamaica** highlighted recommendations such as the increased use of drone imagery to reduce cost to implement programmes to be conducted over a time frame.

**Christopher Alexis, Trinidad and Tobago** terrestrial based methods for data collection and move forward to oceanographic aspects to measure data, there is also the symmetry which is important for information to inform the numerical models to help simulate the different results with different parameters. As it relates to innovative measures we can take; obtain equipment for sea level rise and oceanographic monitoring and possibly data mining with existing data sets with a caveat.

**Dra. Lilliana Maria Piedra Castro, Costa Rica** indicated the use of drone and satellite images is key even more so homogenous methods so that information generated is comparable. We have a manual that contains ground proofing methodology. We do need baseline data because drone and satellite images do not tell the full story, there are elements that we would not be able to observe if we do not do the groundwork, the region needs to implement methods captured in the manual. Need to work with communities, there are opportunities to work with communities to undertake measurement activities that are contained in the manual from the previous phase; to reduce the cost of data collection, this remains a great limitation

**Cherisse Braithwaite-Joseph , Officer in Charge, DDTCE** reiterated the use of the manual as a rescue, disseminating the manual widely and using it as a reference for an online course that could be self-paced, the capacity building has been tutored led and to improve project can have a self-paced or self-lead content alongside manual to keep it as a living course to build upon the manual.

**Pavel** advocated for the use of these technologies with remote monitoring, drones, these technologies are complementary and cannot substitute the information gained on the ground with field work, there are places drones cannot see due to vegetation, there are certain topography that the drones do not capture.

**Christopher Alexis, Trinidad and Tobago** expressed his agreement with Pavel in the sense that drones are complimentary.

*Question 2: How can we better facilitate collaboration among member states to enhance the outcomes of the Sandy Shorelines Project?*

**Christopher Alexis, Trinidad and Tobago** stated that joint collaboration for topics of interest for the region to be involved in joint decision making so it's not unilateral and to decide on a good way forward and have all options considered and the entire region can celebrate the success and not just certain territories.

**Chanel Raynor, Jamaica** stated that there should not be a one size approach, many countries are at different stages, to assist countries that may have to start from scratch and focal groups can do more hand holding for countries that may need assistance and also a platform for data sharing. Short term network and contact those who may need, use the people in the room as the first point of contact.

**Dra. Lilliana Maria Piedra Castro** agreement with Chanel Raynor, and stated that we already have a platform, a legacy from the 1st project, not just the manual but there is a human connection element which brings together the technical people but today we are also being joined by country specialists who did not take part in 1st part of project , we need to foster inter multi-disciplinary work, establish agile communication mechanism to be in touch with each other and provide feedback, hold talks, symposiums, capacity building courses with local staff and communities to discuss concerns. The platform mentioned by Cherisse Braithwaite-Joseph can be used to share experiences, concerns, and build social awareness on coastal erosion. She further stated that we can develop joint projects, parallel projects to train technical staff like internships, field visits and we can host students to help us carry out assessments.

**Dr. Juanes, Cuba** stated that those interested in continuing engagement with Sandy Shorelines Project, and as we analyse proposals to move forward, particularly methodology, we need to have as a starting point the project's achievement. He noted there have been Focal Point meetings, brainstorming sessions. He suggested the use of project objectives as a starting point, with the need to critically assess results that we have attained. He mentioned we should not move on to new projects without analysing previous results, we will lose the path, and the next segment should focus on the intensity and the extent of beach erosion phenomena in the Caribbean and to provide science-based findings and evidence-based findings including homogenous methodologies.

Impact Measurement:

- 1. How should we measure the success of each component moving forward? What indicators or metrics would be most useful?*

**Christopher Alexis, Trinidad and Tobago** stated that it is important to have a baseline of what currently exists, must have previous data to compare with new data. Before measuring success, we must establish a baseline then tick off completed objectives and look at key performance indicators for each step.

**Dra. Lilliana Maria Piedra Castro** expressed the need to know the status of erosion in each country, with the baseline we can compare the changes and what has happened, whether more eroded sites or less eroded sites which can help us make decisions where rehabilitation is needed. She expressed the need for data analysis and technical staff to do the measurements who have received training to use the different drones and technologies. She stated that there is a need for the platform as well as on the ground training and must have equipment with necessary training.

**Chanel Raynor, Jamaica** expressed her want for outputs to align with the Global biodiversity framework and other climate change programmes that many countries are signatory. She noted There is a gap of project's focus and implementing the recommendations. We need to improve complimentary eco systems as well, the need to complement SSP with other projects, its dynamic system and everything interconnected and need to address the system as such

**Leo Brewster Barbados,** sought clarification on determining success while expressing the need for political commitments for financing, research and to do implementation and restoration.

**Isis Hernandez** noted that this Project in the second phase has identified success indicators and with the 1st part dealing with elements that will be monitored and it also established which beaches to be worked on. She noted the countries have implemented monitoring systems at different stages to have results in each of the countries and have to standardise technology and observe erosion patterns along our coastline and that's an indicator of project success.

**Bienvenido Santana, Dominican Republic** stated that we have already established a monitoring network, and we have learnt a lot, and we achieved knowledge transferring to other tech experts. He expressed the need for commitment, the project must create a way of assessing to generate real commitment. In the Dominican Republic's case, they have used information for decision making and highlighted that there should be focus on improving commitment to have greater results and take this result to more sectors

*2. How can we ensure that the project remains adaptable to changing environmental conditions and stakeholder needs?*

**Chanel Raynor, Jamaica** expressed the need to maintain dialogue with key stakeholders, develop a feedback group and include them in the decision-making process.

**Christopher Alexis, Trinidad and Tobago** reaffirmed the need for constant dialogue with stakeholders and community engagement to assist implementation and have a flexible plan, which can adapt to changing times and constant training as technology increases.

**Dr. Lilliana Maria Piedra Castro** expressed the need to look for mechanisms to improve the quality of beaches. In Costa Rica, beaches attract tourism which in turn drives the economy. She added that coastal erosion poses a risk to the economy and human development and can be linked to a reduction in the quality of life. She expressed the need to consider the environmental, social and cultural aspects.

#### Sustainability and Long-Term Vision:

- 1. What strategies should be developed to ensure the sustainability of the project outcomes after the completion of Phase 2?*
- 2. How can we engage communities and stakeholders to foster a sense of ownership and responsibility for coastal management initiatives?*

**Chanel Raynor, Jamaica** mentioned ensuring persons in organisation are aware of the project, so not one person is aware to ensure longevity of project. The need to allocate funds not only for implementation but also for its maintenance. She suggested complimenting the Sandy Shorelines Project with other projects to ensure sustainability.

**Dr. Lilliana, Costa Rica** expressed agreement with Chanel Raynor comments and expressed the need to strengthen the invitation process and inform foreign affairs ministry about the second phase of the project and the need for participation from members of ACS states. She suggested the establishment of two focal points one on the political level and the other on the technical level and increased involvement and not only for data generation but greater influence in the country.

**Christopher Alexis** suggested implementing stakeholder involvement from inception, increasing education for capacity building alongside with the involvement of business communities.

#### Day 2: Closing Ceremony

**Cherrise Braithwaite-Joseph** thanked the participants for their attendance and underscored the importance of the project for the entire region and our coastal communities, for not only economic importance but also identity. Cherrise Braithwaite-Joseph then invited Deputy Director Yong Jeong Kim to deliver closing remarks.

**Deputy Director, Yong Jeong Kim** noted that the Sandy Shorelines Closing Workshop facilitated lessons learnt and provided us with the opportunity to celebrate its success.

Kim expressed gratitude to the focal points, ACS and GAMMA for presenting the significant impacts of collaborative efforts. The Deputy Director expressed hope to continue projects with ACS to improve sustainable development in the Caribbean region and to protect our vital ecosystems and conserve our natural heritage for future generations.

**Cherisse Braithwaite-Joseph** thanked the Deputy Director for her kind works and expressed gratitude to KOICA for their involvement as project partners and invited the Secretary General, Rodolfo Sabonge to deliver closing remarks.

**The Secretary General, Rodolfo Sabonge** emphasised the uniqueness of the Caribbean's challenges regarding climate change, stressing that no single solution fits all. He underlined the importance of internalising the messages and methodologies shared among member states, highlighting the need for both equipment procurement and training to effectively use that equipment. Collaboration and coordination were seen as essential for addressing the worsening climate crisis, which disproportionately impacts the Caribbean, despite its minimal contribution to the issue. He expressed gratitude for the financial and technical support from Korea and KOICA, inviting the Minister of Foreign Affairs of Korea to the upcoming Heads of States Summit to explore future collaborations. Sabonge reiterated that the future of the region's oceans relies on collective stewardship, which is vital for the well-being of both the marine environment and local communities. Acknowledging the contributions of experts from GAMMA, he noted the success of the Sandy Shorelines project as a testament to what can be achieved through cooperation. He addressed coastal erosion as a pressing issue affecting economic stability and cultural identity, calling for a focus on coastal resilience while also recognizing the emerging challenge of climate-induced migration.

**Cherisse Braithwaite-Joseph** encouraged participants to take advantage of the networking opportunities and expressed her thanks to all those who contributed to the success of the event and the Closing Workshop came to an official close.

## **CONCLUSION**

In conclusion, the *Sandy Shoreline Project Wrap-Up Workshop* successfully accomplished its intended outcomes, providing a critical platform for project beneficiaries to exchange experiences and insights.

Component 1 focused on facilitating collaboration among stakeholders, resulting in the creation of an Outcome Document that captured the challenges, and the successes encountered throughout the project. This document not only highlights key insights and lessons learned but also includes essential considerations for integrating a Regional Erosion Monitoring Network into national plans, thereby laying a foundation for ongoing efforts in enhancing coastal resilience within the region.

Component 2 aimed on enhancing communication and public awareness regarding the project's impact. This was achieved through the production of high-quality content that documents and disseminates the activities of the closing workshop. The materials created and disseminated including testimonials, presentations and photographs were dispatched to convey the project's value and the significance of Beach Rehabilitation Network to stakeholders.

Overall, the workshop marked a significant milestone in reinforcing the resilience of Caribbean coastal communities and promoting sustainable practices in the face of climate change. Moreover, the workshop laid a foundation for a possible Phase 2 of the project through the integration of insights, the establishment of a Regional Erosion Monitoring Network, continued collaboration among stakeholders (focal points). This ongoing commitment will aid in strengthening the adaptive capacity of coastal communities but also ensure that the region is better equipped to address the evolving challenges posed by climate change and the sea level.