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Third Meeting of the Scientific, Technical and Advisory Committee (STAC) to the Protocol concerning Pollution from Land based Sources and Activities in the Wider Caribbean.

Miami, Florida, USA, 31st October to 2nd November 2016

**APPLYING INNOVATION TO REDUCE NUTRIENT POLLUTION FROM
WASTEWATER AND AGRICULTURAL DISCHARGES IN WATERWAYS,
COASTAL AND MARINE ENVIRONMENTS OF THE CARIBBEAN SEA**

For reasons of economy and the environment, Delegates are kindly requested to bring their copies of the Working and Information documents to the Meeting, and not to request additional copies.

Proposal: Applying innovation to reduce nutrient pollution from wastewater and agricultural discharges in waterways, coastal and marine environments of the Caribbean Sea

Funding Opportunity Number: **OES-OTI-16-005**

Bureau of Oceans and International Environmental and Scientific Affairs' (OES) Office of Conservation and Water, United States Department of State

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Funding Opportunity Title: Ocean Conservation Projects in Developing States: Advancing Marine Protected Areas and Reducing Nutrient Pollution

Funding Opportunity Number: OES-OTI-16-005

Bureau of Oceans and International Environmental and Scientific Affairs' (OES) Office of Conservation and Water, United States Department of State

Category 3. Projects to reduce nutrient pollution in waterways, coastal waters and the ocean

Proposal: Applying innovation to reduce nutrient pollution from wastewater and agricultural discharges in waterways, coastal and marine environments of the Caribbean Sea

Submitted by:

The UNEP Caribbean Environment Programme (CEP)

and the

UNEP Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities (GPA)

Division of Environmental Policy and Implementation (DEPI)

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In association with the:

Global Partnership on Nutrient Management (GPNM)

Global Wastewater Initiative (GW²I)

July 2016

1. Executive Summary

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Project purpose: To demonstrate effective small-scale wastewater and agricultural management solutions for nutrient discharge reduction to the environment through strengthened national capacities and partnerships within the Caribbean Platforms for Nutrient and Wastewater Management.

Targeted countries: Jamaica and Costa Rica

Program length: Two (2) years

Total funding requested: US\$ 245,000

Project Goal: Through investment in innovative wastewater treatment technologies and demonstrating best practice for agricultural runoff diversion in Jamaica and Costa Rica, it is anticipated that the project will contribute to catalyzing efforts at the regional level to significantly reduce nutrient pollution from land based sources to the marine environment in the Caribbean

Primary objectives:

- To demonstrate the deployment of innovative, economically-viable appropriate wastewater technologies for small coastal communities to foster uptake, replication and up scaled investment;
- To demonstrate the deployment of best nutrient management practices in agriculture in the areas of nutrient conservation, recycling and use efficiency, with added benefit of integrating climate-smart approaches;
- To strengthen partnerships between on-site beneficiary groups, local and regional institutions to share best practices using the Caribbean Platforms for Nutrient and Wastewater Management.

NGO's/civil society organizations to be involved: Rural Agricultural Development Authority (Jamaica), Community Associations for the Management of Water and Sewage Systems (Costa Rica), Caribbean Agricultural Research & Development Institute (CARDI), Caribbean Public Health Agency, Caribbean Water and Wastewater Association (CWWA), Caribbean Water and Sewerage Association (CAWASA), Food and Agricultural Organization (FAO), Tropical Agricultural Research and Higher Education Center (CATIE).

Expected results and sustainability: Through these investments, the capacities of the local agencies will be significantly strengthened to implement ongoing nutrient reduction activities. Increased awareness of the benefits of effective wastewater and nutrient management and methods will promote knowledge sharing and partnerships among regional and global communities and partner agencies on best practices. The project will be embedded within the

programme of work of the Caribbean Environment Programme and the Global Programme of Action with technical support of the GPNM and GW²I Partnerships. The Land-Based Sources of Marine Pollution Protocol of the Cartagena Convention for which UNEP CEP is the Secretariat will form the broader regional legal framework for the project and facilitate replication and/or upscaling at national and regional levels. The project will also contribute to meeting Sustainable Development Goal 6 on water and sanitation, and Goal 14 on oceans.

Summary of program description: This submission is a detailed proposal for funding to implement and demonstrate cost-effective innovative solutions in **Jamaica** and **Costa Rica** that can be up scaled and replicated to contribute to mitigation of nutrient loading to the coastal waters of the Caribbean. The program is intended to target impacts resulting from agricultural and urban runoff and wastewater discharges within the two countries.

2. Organizational Capacity and Past Performance

2.1 Description of the applicant organization

The United Nations Environment Programme (UNEP) is the leading global environmental authority that sets the global environmental agenda, promotes the coherent implementation of the environmental dimension of sustainable development within the United Nations system and serves as an authoritative advocate for the global environment. UNEP received an annual budget of US\$777 million in total income for 2014-2015. The main sources of funding are from the Environment Fund, Earmarked Contributions, Global Environment Facility (GEF), UN Regular Budget and UN Development Account (UNDA) and European Commission. The top contributors to the Environment Fund have been the Netherlands, Germany, France, Finland, USA, the United Kingdom, Sweden, Belgium, Denmark, Switzerland, Italy, Japan, Canada, Norway and the Russian Federation.

UNEP hosts the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA) Coordinating Unit, the only global intergovernmental mechanism directly addressing the connectivity between terrestrial, freshwater, coastal and marine ecosystems, and the Caribbean Environment Programme (CEP), a UNEP administered Regional Seas Programme to foster the conservation of the Wider Caribbean Region's fragile and vulnerable coastal and marine ecosystems which harbors an abundance of endemic flora and fauna. These programmes are implemented under UNEP's Division of Environmental Policy and Implementation (DEPI) primarily through its Ecosystem Management and Chemicals and Waste sub-programmes. UNEP undertakes its work in partnership with a myriad of other collaborating centers such as GRID Arendal, the World Conservation Monitoring Centre (WCMC), UNEP's Collaborating Centre on Water and Environment (UCC-Water) along with several policy, academic and technical institutions from national to global levels¹.

UNEP's Programme of Work is guided by a Medium-Term Strategy² endorsed by UNEP's Governing Bodies via the United Nations Environmental Assembly (UNEA). The agency is

¹ UNEP's governance structure: <http://www.unep.org/about/Structure/tabid/129623/Default.aspx>

² UNEP Medium Term Strategy 2014-2017: http://www.unep.org/pdf/MTS_2014-2017_Final.pdf and new MTS 2018-2021 http://apps.unep.org/publications/index.php?option=com_pub&task=download&file=012120_en

headquartered in Nairobi, Kenya and also hosts several environmental conventions, secretariats and inter-agency coordinating bodies. The UNEP Caribbean Environment Programme is Secretariat for the Cartagena Convention, the only legally binding regional agreement for protection of the Caribbean Sea. The Convention's Land Based Sources of Marine Pollution Protocol has identified nutrient run-off and domestic wastewater as the main pollutant sources negatively impacting coastal and marine resources and coastal livelihoods in the Caribbean.

2.2 Relevant experience in implementing marine protection and conservation programmes

UNEP through the Caribbean Environment Programme (CEP) has implemented several relevant projects and activities in the Wider Caribbean Region (WCR) involving its 28 Member Countries. This has been done within the framework of the Assessment and Management of Environmental Pollution (AMEP) sub-programme. These projects and activities have focused on addressing integrated watershed and coastal zone management in Small Island Developing States (SIDS); prevention and reduction of pollution by oil spills, ballast water, marine litter/solid waste, sewage and nutrients; strengthening of marine protected areas (MPAs); ecosystem-based management (EBM) for coastal and marine activities; conservation of marine mammal corridors; information sharing on the Sargassum seaweed influx; and enhancing regional coordination for improved governance and sustainable management of living marine resources in the WCR.

The Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities (GPA) unit hosted by UNEP has been closely collaborating with CEP in implementing projects in the WCR. The Global Wastewater Initiative (GW²I) under GPA has recently conducted wastewater training in Caribbean on 'improving wastewater management in coastal cities' which brought together UN agencies, international organizations, governments, scientists, private sectors and major groups and stakeholders; whereas the Global Partnership on Nutrient Management (GPNM) also under GPA is currently conducting a GEF- Global Nutrient Cycle (GNC) project in Manila bay, Philippines and Chilika Lake, India on addressing nutrient over-enrichment and oxygen depletion from land based pollution of coastal waters in Large Marine Ecosystems.

3. Program Strategy

This proposed initiative seeks to catalyze uptake and replication of best practices in reducing the harmful environmental and consequent adverse socio-economic impacts due to pollution loading into coastal and marine environments from land-based discharges from agricultural and urban environments. It is estimated that as much as 85% of wastewater entering the Caribbean Sea remains untreated. As coastal waters of the Caribbean Sea have been increasingly subjected to the detrimental impacts of pollution, the integrity of marine ecosystems is being compromised along with quality of recreational waters, elements that are of great importance to the economies of all countries of the region in terms of tourism and fisheries. In many countries near shore coastal environments are persistently eutrophic with dead-zone conditions particularly offshore major urban centers.

This project will build on the work of many initiatives in the region in the promotion of best practices and scalable technologies for nutrient load and wastewater diversion and treatment, most recently under the GEF-funded Integrating Watershed and Coastal Areas Management

(GEF-IWCAM) Project and the GEF-funded Caribbean Regional Fund for Wastewater (GEF-CReW) Project. The GEF-CReW project is led by UNEP's Caribbean Environment Programme and the Secretariat of the Cartagena Convention to assist countries in meeting obligations under the Land-Based Sources of Marine Pollution Protocol. Currently the project is helping to provide sustainable financing for the wastewater sector; support policy and legislative reforms; foster regional dialogue and knowledge exchange amongst key stakeholders in the Wider Caribbean Region. Therefore, this proposal will continue to build upon the work being done by the GEF-CReW, informed by the lessons learnt, to implement integrated approaches to wastewater and nutrient management for the protection of water sources in the region.

UNEP's Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities (GPA) has been strengthening multi-stakeholder partnership regional-level platforms in the Caribbean under the global partnerships, the Global Partnership on Nutrient Management (GPNM) and the Global Wastewater Initiative (GW²I), to help transfer the global knowledge base to practice through policy and technology innovation at the country level.

Under the aegis of the LBS Protocol and UNEP's support through the Caribbean Environment Programme and the GPNM and GW²I partnerships, the project aims to achieve the following:

- Demonstrate the deployment of innovative, economically-viable appropriate wastewater technologies for small coastal communities to foster uptake, replication and investment;
- Demonstrate the deployment of best nutrient management practices in nutrient conservation, recycling and use efficiency, with added benefit of integrating climate-smart approaches;
- Strengthen partnerships between on-site beneficiary groups, local and regional institutions to share best practices.

3.1 Implementation plan and main activities

Specifically, the project will focus on replication of best practice models to treat point-source urban wastewater discharges, non-point sources from agricultural areas, with the additional element of enhancement of best practices for nutrient use efficiency (NUE) in cropping systems. Within the scope and scale of the resource availability under the grant, the field demonstrations will be small-scale and low-cost, but technology-appropriate for Caribbean environments. The project will target lower-income rural/coastal communities with low rates of wastewater collection and treatment posing a threat to local marine environments. Specifically, Clarendon, Trelawny and Portland parishes in Jamaica and the Province of Cartago in Costa Rica have been identified, however, at project inception the precise locations for the interventions will be identified through more in-depth stakeholder consultations.

3.1.1 Component 1. Investments in wastewater and nutrient discharge reduction

1.1. Installation of a small-scale Aqua-soil/constructed wetland urban wastewater system: Based on the project inception findings and detailed community scoping, at least one small constructed wetland/Aqua-soil installation³ will be implemented to service a disadvantaged community of at least 10 households. This will alleviate wastewater discharges to the receiving environment and mitigate adverse human and ecosystem health impacts. The treated effluent and extracted nutrients will be used for crop irrigation and other horticultural purposes in

³ Aqua soil methodology <http://www.aquasoilgroup.com/method.html>

adjacent areas. Based on the design specifications from a scoping activity a contractor will be hired to undertake the installation. This proposal will capture knowledge gained through Component 3 of the GEF-CReW project which involves the design and implementation of 13 integrated water and wastewater solutions. Additionally, guidance will be drawn from local project partners and local consulting experts and affiliated organizations, with technical backstopping from national and regional collaborating agencies, including the Costa Rican Institute of Water Systems and Sewage, the Caribbean Water and Wastewater Association, Caribbean Water and Sewerage Association, the Food and Agriculture Organization (FAO) and experts from the GW²I and GPNM. The investments will be handed over to the local community organizations for continued management on completion of the work.

1.2 Installation of agricultural field nutrient runoff diversion demonstration: Best approaches for mitigating agricultural field nutrient runoff will be demonstrated at the project locations that will entail the installation of vegetative and drainage measures under either pure crop or mixed crop-livestock production. It is anticipated that at least 100 farmers will be engaged and benefit from the project investment. The investment will seek to reduce field losses of nutrients, maintaining them on-site, so as to maintain productivity and reduce the need for extra fertilizer inputs. Design of the system will be informed by a scoping investigation that will define the scope of work and a contractor will be recruited to execute the works. It should be noted that the target beneficiaries will need to be affiliated within strong farmer associations with high levels of commitment so that the investments will be sustainable in the long-term. Local agricultural development support agencies will provide supervision and will receive technical backstopping from local Costa Rican universities, the FAO, the Caribbean Agricultural Research and Development Institute (CARDI), Tropical Agricultural Research and Higher Education Center (CATIE) and from GPNM partners.

1.3 Demonstration of nutrient use efficiency practice: Best practices for nutrient use efficiency will be demonstrated with emphasis on more efficient fertilization practices incorporating techniques such as fertigation and nutrient recycling. This demonstration in as far as practical, will be focused within the same demonstration areas as under sub-component 1.2. On-site scoping will be undertaken to determine the scope of the intervention to be followed by the development of a NUE plan. This plan will include anticipated productivity enhancement targets in terms of fertilizer inputs and crop yields. This intervention will include a comprehensive training programme. The farmers are already well-organized and at a level of capacity that will facilitate long-term sustainability of the intervention. The local lead agricultural agencies and farmer cooperatives will be supported under the GPNM partnership through FAO, CATIE, CARDI and local universities.

3.1.2 Component 2. Knowledge management

2.1 Development of solutions guidelines: All the interventions under Component 1 will be supported by knowledge management expansion. Each of the sub-components will entail the development of support documentation in the form of information/specification fact sheets and guidelines that will be used as training resource material. Existing best practice documentation will be drawn from the GPNM, GW²I and other regional and local partners and as needed, and adapted for specific products for local stakeholders.

2.2 Publication of lessons learned synopses: An important output that will be generated toward the close of the project will be a lessons learned or synopsis document that describes the implementation process with emphasis on the key achievements, but significantly on experiences in the adaptation of the tools, methods and technologies. Both positive and negative experiences will need to be captured as case studies to assist future replication and upscaling efforts.

2.3 Capacity building in field assessment: The local stakeholders will be expected to be actively engaged in the operations and maintenance of the facilities and the monitoring of the impacts of the interventions. This will assist in strengthening the buy-in among the direct beneficiaries and the wider community and ensure sustainability. The methods to be used will be simple, incorporating a blend of quantitative and qualitative measures that will be relatively easily assessed in the field and interpreted. Tools such as the Ecosystem Health Card⁴ that draws on citizen science as well as more mainstreamed science approaches, or a blend of the two approaches will be used. The project will support the procurement of basic field test equipment primarily to assess parameters such as nitrates and nitrites, and other parameters of interest. Use of field test kits by field practitioners and beneficiary stakeholders are intended to help improve understanding the science and the establishment of a baseline. It is anticipated that where possible and practical, support agencies engaged in the project will contribute to field assessments.

Stakeholders and collaborators will be trained in application of the field assessment methods. To support this, guidelines for field assessment and results interpretation and reporting will be developed. Training activities around these guidelines will be designed and conducted in collaboration with the local support agencies. These guidelines will be made available in print and digital formats.

3.1.3 Component 3. Advocacy and awareness

3.1 Video documentation of experiences: To facilitate building awareness on application of best practices and techniques it is recommended that short films using mobile phones be produced. These films can be shared through various social media streams and through information dissemination platforms of project partners. To ensure quality control, training on filming and narration will be offered to local collaborators through face-to-face and/or remote sessions. It is proposed that local media be engaged as part of community outreach efforts to assist with this initiative.

3.2 Production of printed resource material: This will entail the design of awareness-raising posters and brochures in ‘info-graphic’ format in respective languages. This information will be disseminated to target audiences associated with the project, community members, students as well as local & municipal decision makers.

3.3 Convening of town hall meetings and seminars: The community will be sensitized through group events that will provide an opportunity to share the experiences and solicit buy-in

⁴ The GPNM has supported the ecosystem health scorecard approach in India and the Philippines that can have some useful application. Examples of the scorecard for Chilika Lake, India is available online at http://www.chilika.com/documents/publication_1468305291.pdf and the scorecard for Laguna de Bay, Philippines is available at <http://www.ilda.gov.ph/dox/ldb-scorecard/ldb-report-card.pdf>

and engagement. These gatherings will be important to assist in expanding visibility of the regional GPNM and GW²I platforms and the partnerships at the global level. An important anticipated outcome of these events is establishing the link of the work for achieving the Sustainable Development Goals.

3.1.4 Component 4. Partnership building

4.1 GPNM and GW²I partnership forum strengthening: The project will support the hosting of at least two joint GPNM and GW²I regional platform meetings with financial support provided to at least 10 participants to cover the costs of travel and venue hosting. It is anticipated that this event will be co-financed with inputs from other relevant projects and initiatives of partners in the region so as to draw other participants and experts. This event will showcase the experiences in the implementation of the project and contribute to the development of joint work plans of the platforms. It will thus promote regional replication and national upscaling.

4.2 Support to meeting attendance: The project will assist travel of local project collaborators to present on the outcomes and outputs from the project at various regional meetings such as those of the CWWA, CAWASA, IICA, FAO, Caribbean Alliance on Sustainable Tourism (CAST) and Regional Technical and Intergovernmental Meetings of the UNEP Caribbean Environment Programme. This will advance awareness among partner agencies of the work, help strengthen the visibility of the platforms and identify avenues to deepen cooperation and collaboration.

The following is the work plan matrix that summarizes the implementation plan.

Primary Activities, Deliverables, and/or Milestones	Year 1				Year 2			
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
C1. Investment								
1.1 Small-scale wastewater system								
1.1.1 On-site scoping	■							
1.1.2 Technical design	■	■						
1.1.3 Contractor selection and award		■						
1.1.4 Installation			■	■	■	■	■	
1.1.5 Operator training		■			■			■
1.1.6 Hand-over								■
1.2 Agricultural field runoff diversion								
1.2.1 On-site scoping	■							
1.2.2 Technical design	■	■						
1.2.3 Contractor selection and award		■						
1.2.4 Installation and training		■	■	■	■	■	■	
1.3 Nutrient use efficiency - fertilization and recycling								
1.3.1 On-site scoping	■							
1.3.2 NUE plan/programme implementation		■	■	■	■	■	■	■
1.3.3 Training		■			■			■
C2. Knowledge management								
2.1 Technical guideline on solutions application								
2.1.1 Conceptualize								
2.1.2 Draft content				■				

Primary Activities, Deliverables, and/or Milestones	Year 1				Year 2			
2.2 Lessons learned synopsis								
2.2.1 Draft content								
2.3 Field monitoring tools procurement, guidelines								
2.3.1 Basic equipment procurement								
2.3.2 On-site training on use of facilities, tools and reporting (citizen science methods)								
2.3.3 Draft guideline content and validation								
2.3.4 Publication - printing and online dissemination								
C3. Advocacy and awareness								
3.1 Short film								
3.1.1 On-site training in personal smart device filming (project personnel)								
3.1.2 Editing and production of submissions								
3.2 Printed material								
3.2.1 Design and content contribution to (1) posters, (2) brochures in respective languages								
3.2.2 Printing of products and dissemination								
3.3 Town halls and seminars								
3.3.1 Convening of 4 special sensitization events at the project sites								
C4. Partnership building								
4.1 Partnership forum strengthening								
4.1.1 Hosting of 2 joint GPNM and GWI regional platform meetings - support at least 10 participant travel and venue hosting costs								
4.2 Meeting attendance								
4.2.1 Participants from projects attending CWWA, CAWASA, IICA, FAO, UNEP fora to report (4 meetings; 4 participants travel support)								

3.2 Anticipated results

By demonstrating cost-effective innovative approaches to wastewater and nutrient management the project will have an immediate impact in addressing nutrient excess and environmental degradation of ecologically sensitive and economically important environments. . The project will contribute to ongoing efforts in the Caribbean through initiatives such as the Caribbean Regional Fund for Wastewater Management funded by the Global Environment Facility (GEF-CReW) and implementation of the nutrient pollution control-related interventions under the upcoming Caribbean Large Marine Ecosystem Project Strategic Action Plan. The key results will demonstrate investments that have the benefit of serving as training tools for stakeholders in the country, as well as further afield in terms of extension of the lessons learned and methodologies through guidelines and awareness raising approaches.

The key results will be **(1) At least 1 investment in (a) a small-scale urban wastewater demonstration system, (b) demonstration on best practice agricultural runoff diversion (nutrient conservation) techniques and (c) demonstration on best practices in nutrient use efficiency methods, that are managed by local beneficiary communities and direct stakeholders; (2) strengthened capacities** among direct beneficiary stakeholders and local support agencies to lend support to improved wastewater and nutrient management, **(3) increased awareness** and

buy-in among local stakeholders on issues of poor wastewater and nutrient management and methods to make improvements, **(4) enhanced knowledge sharing** among regional and global communities and partner agencies on best practices, **(5) strengthened regional GPNM and GW²I platforms** that provide a space for deepened collaboration among national and regional agencies through joint work planning, **(6) progress toward improved environmental quality** in receiving environments, specifically adjacent coastal waters, and **(7) improved compliance** with the obligations of the LBS Protocol while contributing to achievement of relevant SDGs.

3.3 Assumptions

The following are the key assumptions that need to be taken into consideration to realize successful implementation of the project:

- Recognized need among the local community and direct beneficiaries for investments to address pollution problems that have ecological and socio-economic implications;
- Strong community buy-in to actively participate and remain engaged in the process;
- Technology proposed is simple to understand and easily applied. The technology must be appropriate to location & culture, gender sensitive, replicable and cost-effective;
- Willingness to maintain the investments by the direct beneficiaries;
- Good visibility among target stakeholders to enhance buy-in and increase possibility of upscaling and replication;
- Political level buy-in among local community leaders and decision makers at municipality and national government policy level;
- Expressed intention to integrate the project within the work of the local collaborating agencies;
- GPNM and GW²I partners remain committed to provision of technical advice;
- Active engagement of key regional partners and donors;
- Strong project management support at the local level with counterpart support at the regional level through UNEP-CEP, UNEP-GPA and the GPNM and GW²I Platforms;
- Timely reporting on progress by the local support team;
- No natural disasters that may interrupt the investments or render continuation unfeasible.

4. Performance Monitoring and Evaluation

It is anticipated that the project will report on progress every 6 months to project partners through the lead implementing agency UNEP-CEP and onwards to the GPNM and GW²I partnerships. Close cooperation between the local technical support agencies, the stakeholders and the project management team will be necessary to maintain up-to-date and assessment of the project success against the set of defined performance indicators. Project reporting will be submitted to the US State Department as stipulated in the donor agreement. Further details are contained in Annex 2.

5. Management Plan

The following are the proposed project management arrangements in terms of collaborators and respective roles:

On-site Project Manager(s): A local Project Manager (PM) will be appointed to ensure that the project is implemented within the expected scope of the project proposal. The local project manager will be someone designated from either the community or an associate local agency. The project will cover the costs of an honorarium so as to incentivize commitment to the project.

Consulting experts: Five local (5) consultants are proposed; (1) a **wastewater specialist** with skills in design and execution of low-cost small-scale technologies that incorporate bioengineered solutions; (2) an **agricultural specialist** with expertise in nutrient use efficiency, recycling of nutrients in production systems and diversion of field nutrient runoff through appropriate drainage and agronomic practices; (3) an **environmental quality assessment specialist** with expertise in low-cost alternatives in ambient water quality assessment and general environmental quality assessment, drawing particularly on citizen science approaches and beneficiary/community engagement and (4) a **communications specialist** with skills in community outreach, production of media products, including social media products. These consulting experts are proposed to be drawn from local collaborating agencies. Their time contributions will be compensated under the project. These experts will be the front-line advisors to the Project Manager on the installation of the investments, and will support capacity building and the awareness-raising and advocacy efforts.

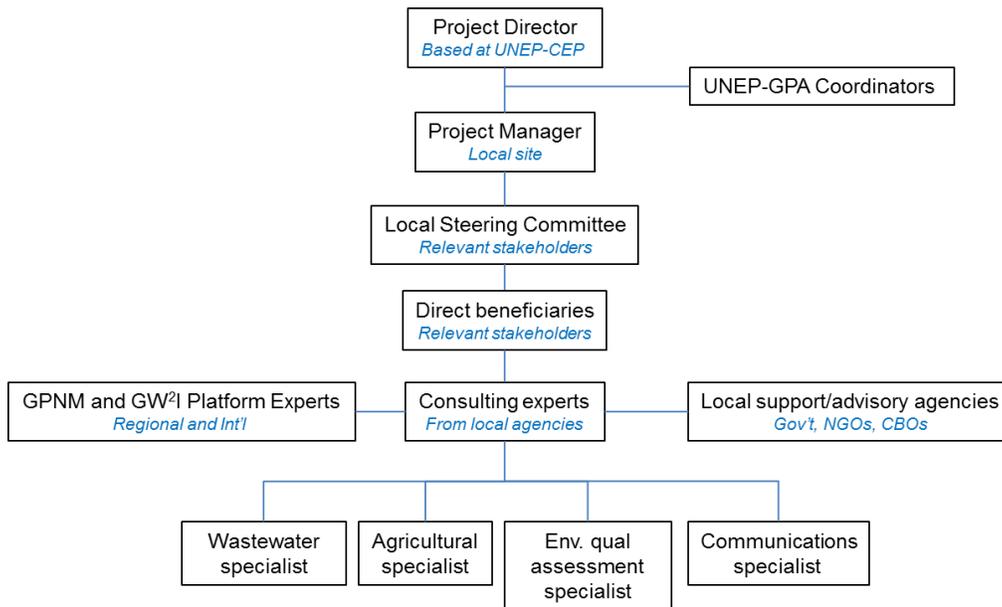
Project Director (UNEP-CEP): The Project Director (PD) within UNEP-CEP will be responsible for overall supervision of implementation, interfacing with the local PM in terms of ensuring that tasks are completed and that reporting is completed and timely. The PD will report onward to the CEP Secretariat and the GPA. The PD will consult accordingly with all regional partners in advising on project implementation in general.

Local Steering Committee: A Steering Committee (SC) will be assembled to oversee the implementation of the on-site investments. The SC will provide needed technical and community-level support to help create buy-in and build sustainability of the intervention. The local Project Manager will have responsibility for organizing meetings and compiling inputs from the SC.

Local support agencies: These are the local technical partners that will provide direct advisory services to the beneficiary stakeholders and the Project Manager. These organizations will include *inter-alia* agricultural extension services, health and sanitation departments, environmental assessment laboratories and water/sewerage services. Local farmer cooperatives and other relevant non-governmental and community organizations will be engaged to assist with mainstreaming the outputs of the project to realize sustainability. These agencies will be expected to constitute the core of the Steering Committee.

GPNM and GW²I Platform Coordinators (UNEP-GPA): The Project Manager, Project Director the consulting experts will receive technical guidance from specialists in wastewater and nutrient management drawn from the GPNM and GW²I partnerships, either from the regional platforms or at the international level. This technical backstopping will be facilitated by the Coordinators at UNEP-GPA.

The diagram below illustrates the administrative arrangements to support the project.



Proposed project organizational chart

Summary BUDGET

United Nations Environment Programme

*Applying innovation to reduce nutrient pollution
from wastewater and agricultural discharges in
waterways, coastal and marine environments of
the Caribbean Sea*

2 years

	Requested Federal Funds
A Personnel	24,000.00
B Fringe Benefits	0.00
C Travel	25,000.00
D Equipment	0.00
E Supplies	12,500.00
F Contractual	69,775.00
G Construction	86,000.00
H Other Direct Costs	27,725.00
I Total Direct charges	245,000.00
J Total Indirect costs	0.00
K Total Project Cost	245,000.00
L Cost Share (if applicable)	30,000.00

* line item amounts auto-fill from "Detailed Grant Budget Template" tab