



Proposal title: The Sargassum Project

Organization: joint partnership between The Grenadines Initiative and Action Bequia

Country: St. Vincent and the Grenadines

Action Bequia

In the past seven years, since its founding, Action Bequia has built partnerships across the communities of Bequia, supporting them in the development of public works including the restoration of public spaces (Belmont Walkway; Princess Margaret Trail; Harbour, Port Elizabeth) and the creation of an island-wide recycling program. All projects are ongoing, and are built from local resources, expertise, and management.

The Grenadines Initiative

The Grenadines Initiative (GI) was launched in the spring of 2018 in order to extend the work of the Bequia Mission, renew engagement, and restate the vision that has led the mission since it was founded in 1970. In addition to ongoing population health and wellness programs, the GI is focussed on improving education outcomes, knowing that through education other lasting social benefits will follow. The work begins with improving the foundation for education on the island, clarifying curricular outcomes, supporting literacy programs, and improving graduation rates. The GI works hand-in-hand with existing programs, at the direction of local leaders, including school lunch programs and the procurement of medical supplies and equipment.

Partners:

Action Bequia

Grenadines Initiative

Community Foundation for St. Vincent and the Grenadines

Grenadines Partnership Fund

Bequia Sargassum Action Group

The Learning Center

Schools: The Lower Bay School; The SDA Primary School; The SDA Primary School; The Bequia Anglican Primary School; The Sunshine School; Lakefield College School

Objective

A presumed combination of climate change, pollution from fertilizers, and ocean currents has caused the growth of sargassum to reach critical levels. The algae mats come ashore, not only impacting local industry, but also impacting the remaining indigenous flora, which is particularly at risk. As sargassum decays on the shorelines it releases sulphur in quantities that affect respiration. Accumulations on beaches make it harder for sea turtles to nest, and hatchlings die on their way to open water due to the barrier the sargassum poses as well as the respiratory damage caused by the sulphur emissions.

While sargassum is an important habitat at sea, its proliferation is putting other habitats at risk, both at sea and on shore. We'd like to develop local monitoring of the blooms to increase the local and regional understanding of its impact on terrestrial plant and wildlife populations. We'd like to develop this program in consort with educational institutions on Bequia and St. Vincent, allowing a hands-on, collaborative study managed and conducted by local volunteers, educators, and students. The data will then be shared with select secondary and post-secondary academic institutions in Canada, creating international project-based partnerships.

Further we'd like to test approaches to the problem. The first is the theoretical use of sargassum as a resource, particularly as a growing medium. It would be gathered from the shoreline before it has time to fully decay, then treated (on a 5-acre site provided by a benefactor to Action Bequia) to convert it into a viable soil enricher, thereby enabling the creation of a multi-acre facility supported by local horticulturalists and local landscaping and agriculture operators. If successful, the project will not only reduce the impacts along the shoreline, but will enable the cultivation of fruit and vegetables that otherwise are imported. This would:

- reduce importation of fruit and vegetables
- provide employment and revenue
- provide a model for other Caribbean island communities to follow in addressing the core problem
- provide a focal point for development of other environmental stewardship initiatives
- increase academic engagement, and help support an ethos of achievement within the student population.

Outcome indicators

Regular reporting and oversight provided by administration of Action Bequia and the Grenadines Initiative to relate quarterly and annual levels of:

- Community involvement; volunteer hours
- Student participation
- Communication, including media attention, social media metrics, and web analytics
- Tonnage of sargassum moved away from the shoreline, to serve as a means of estimating the success of the program and, by inference, the proliferation of sargassum year-over-year.

- Sulphur emissions, tested weekly, expressed in ppm, at a few key locations on the island, one being Spring Bay, where the emissions are particularly pronounced.
- Ecological surveys, enumerating bird and turtle populations, and adjacent flora using the North American Breeding Bird Survey as a community driven model, to be invigilated by local science educators, with oversight given by the director of the Learning Center in Port Elizabeth, funded in that role by the Grenadines Initiative

National, institutional, and sector contexts

This proposal is important to the country because tourism, particularly in light of the natural resources (ocean, beaches, wildlife, geography), is by far the leading source of revenue. Protecting the environment, and addressing environmental impacts, is—and will increasingly become—tied to the maintenance of the key employment streams. Reductions in revenue/employment will impact the local populations severely, increasing already high crime rates and eroding social cohesion.

It's important to the region given that, throughout the Caribbean, sargassum promises to be the new normal, as it were, an ongoing effect of climate change. An ability to creatively engage with the crisis is of interest to communities throughout the region.

It's important globally as a means of raising consciousness of the effects of climate change, and the pressing need for creative, global collaboration to offset its effects.

Currently the response from the government of SVG is inadequate to fully address the problem, in part because of conflicting perceptions of the cause and severity of climate change, this as supported by the ongoing international climate debate. More generally, the government doesn't currently sponsor sargassum-specific stewardship initiatives at levels appropriate to the nature of what many are now considering to be the early stages of an environmental crisis.

Local businesses, as well as local and regional research organizations, will benefit from the data collection, given that no comprehensive studies have yet been done. Further, it will create a foundation for Bequia to become a research station focussing the work, and drawing international interest and researchers to the region.

We'll engage with public institutions in SVG, Canada, the United States and Britain via the communication channels and mailing lists of organizations that partner with Action Bequia and the Grenadines Initiative, including the World Pediatric Project, Canadore College, Southern Alberta Institute of Technology, McMaster University, and Lakefield College School alumni association.

Beneficiaries

The primary beneficiaries will be the local communities of the Caribbean, who are at risk due to the negative impacts of the sargassum crisis on agriculture and tourism. We'll work to involve those populations at every point in the development of the project, given that their expertise and experience of the impacts will drive the work forward.

Geographic scope

The immediate scope is sub-national, focussed on the island of Bequia, SVG, where the work will be initiated. The findings will be of acute interest to communities, sub-national regions, and nation states throughout the Caribbean and South and Central America that rely on tourism as a significant source of annual revenue. That interest will drive conservation efforts in those geographic and political contexts, leading in time to increased quality of life for local and seasonal populations.

Description

The project relies on existing social assets, community engagement, leadership and expertise, and will employ community residents. It is a direct expression of the concerns of the local Bequian population, brought to us in person and via social media. Delivery and development of the project will rely principally on the 64 members of the Bequia Sargassum Action Group.

The project will add value to the civic works projects undertaken by Action Bequia, including the development of public spaces, drainage, reduction in greenhouse emissions, and a comprehensive recycling program launched in 2016. As such, given that all projects are managed and undertaken by local staff and volunteers, it will further impart a sense of ownership for those areas of civic development, and will further support/grow civic pride and accountability. There is a power that comes from taking civic works into your own hands, as demonstrated by those projects, particularly in light of the client-based culture that has been developed over decades through government programs that initiate on the mainland or beyond. The Sargassum Project is poised to become a cornerstone of that process of asset-based, community-driven community development.

It will further existing educational initiatives, particularly in the delivery of STEM curricula, as currently supported by the Grenadines Initiative. The Grenadines Initiative funds the Learning Centre, The Sunshine School, and supports other local schools. It will further the use of the Learning Center as a civic hub, and help us to continue to build the ethos of achievement that is expressed there, one of the centre's main goals. While resources are slim, educators on island, when asked, will say that parent involvement in the schools, and support of the work being done there, is the greatest obstacle to providing quality education in the island context. This project will provide unique opportunities to bring families—particularly fathers—closer to the work of the schools, allowing an opportunity for them to support academic work in means in keeping with the existing cultural climate and mores.

All of those projects are currently being funded, and the Sargassum Project will build from existing infrastructure, including real estate, haulage, and human resources.

Components and activities

Initiation

- Identify stakeholders' needs through town hall meetings and consultation, including the members of the Bequia Sargassum Action Group, educators, and volunteers
- develop an inventory of assets

Planning

- Define roles, with oversight granted by Action Bequia and Grenadines Initiative staff (David Harper, Glen Herbert, Andre Matthews, Donnet Simmons)
- Education objectives outlined and developed by the staff of the Learning Center (Donnet Simmons, Tylisha Miller, Devvy King).
- Field faculty leaders from within area schools, and designate the Learning Center in Port Elizabeth as a mustering point for student action.
- Delineate objectives, deliverables, project schedules and deadlines

Execution

- Establish detailed communication plan and performance analytics
- Communicate objectives, deliverables, project schedules and deadlines; translate knowledge efficiently to all stakeholders
- Education objectives delivered via the Learning Center and the Sunshine School
- Purchase project-specific equipment (Barber surf rake or similar)
- Establish solar-powered water distillation plant to remove salt from collected sargassum
- Assign staffing

Performance/monitoring

- Maintenance of communication plan (Glen Herbert, Donnet Simmons)
- Review staffing
- Develop detailed sustainability plan

Project close

- Delivery of culminating performance report
- Execution of sustainability plan.

Knowledge and learning

- Residents, participants, and students will be involved at every phase, from initiation through project close. Throughout they will be afforded an intimate view, through hands-on engagement, of the power of social action, community development, and accountability. This will disrupt assumptions of the lack of social capital that are endemic to many on-island populations. Participants will connect meaningfully, through shared action and outcomes, with others outside of their immediate social context, and across religious communities on island, which

tend to be exclusive and insular, creating unnecessary divisions within social life, civic involvement and movement, and access to education.

Sustainability

Community

The desire to affect change relative to the proliferation of sargassum is tangible within the population. They see it as a threat to their livelihood, and have started mobilizing formally and informally around it. We'd like to help them reach the goals they've set for themselves in that regard. We intend to support that momentum only through infrastructure and administrative support—offering the use of available resources, and providing key project-specific elements—not through expertise. That will instead derive directly from the community itself, with positions created and supported via the project funding. The Sargassum Project will begin with a commitment to discovering a community's capacities and assets, a community's existing expertise, programs, and leadership.

Financial

In this part of the world, the main driver of advancement is, understandably, livelihood. The Sargassum Project will capitalise on that impulse, developing unique revenue streams, including those associated with the sale of the growing medium—providing a resource for local micro-agriculture projects, and landscaping companies that serve the seasonal and tourist populations—as well as fruit and vegetables that can be sold competitively, below the consumer cost of imported examples. Those financial interests—revenue, employment—will continue to drive involvement and help offset costs; they will continue to generate and grow financial gains, and the project will function and scale on earned income.

Organizational

The project will continue to be overseen by Action Bequia and the Grenadines Initiative. Those organizations will also continue to provide administrative support and resources, including staffing, per that which is currently in place. Educational programs will continue to be driven by the Learning Center and the Sunshine School per the existing funding and staffing model.

Risks

The main areas of risk are political interference, institutional capacity, technical design and implementation, and sustainability during the initial 3-year life of the project and beyond.

The risk of **political interference** is low, given that the project doesn't intend to disrupt local industry in any significant way, and otherwise communication can offset any concerns, noting that this intends to protect and grow tourism, rather than reduce it.

The **institutional capacity** is high, and schools will see this a compelling way of bolstering STEM learning, civics, and experiential learning. I've spoken with all the principals on island, and all are actively looking for means of increasing STEM instruction, though aware that they don't have the kinds of resources that schools in North American have for delivery of integrated, cross-curricular science curriculum. The project will posit the local environment as a STEM lab, obviating the need to build one in line with other cost- and resource-prohibitive models.

The **technical design** is sympathetic to the resources currently available on island, and will make use of elements currently in place and servicing existing initiatives.

Attracting educators and local entrepreneurs, i.e., building onto local assets, will support ongoing **sustainability** of the overall project as well as discrete aspects of it, such as the ecological survey.

Implementation

Oversight will be conducted jointly by Action Bequia and the Grenadines Initiative in consort with the Bequia Sargassum Action Group. Educational development will be driven by the Learning Center, as supported financially, independent of this proposal, by the Grenadines Initiative. Collection, processing will be conducted by Action Bequia, making use of their existing infrastructure and physical resources. The Bequia Sargassum Action Group will be mobilized around implementation, furthering and significantly augmenting their current effort and activity.

Action Bequia has a significant and demonstrated experience with long-term capital projects, most evident in the recycling program and annual maintenance of the Belmont Walkway.

The Grenadines Initiative, formerly the Bequia Mission, was founded in 1970, and has worked with local committees through the intervening decades to increase quality of life, both through increasing population health and increasing access to education.

Project team

Project Manager

Glen Herbert

Grenadines Initiative

- Identify stakeholders
- Set/chair initiation meetings
- Define scope and activities, keyed to assets
- Assign resources
- Communicate objectives
- In collaboration with project team:
 - Monitor advancement
 - Provide monthly updates
 - Review issues as they arise
 - Approve timesheets and reporting

Chair of Advisory Board**David Harper*****Action Bequia***

- Set/chair bi-monthly board meetings
- Review and approve scope and activities
- Review and approve assignation of resources

Finance Manager/Project Coordinator**Andre Matthews*****Grenadines Initiative***

- Provide financial oversight and reporting
- Assist in planning and scheduling
- Manage budget
- Process timesheets
- Monitor risk throughout implementation phase
- Identify risk and escalate to project manager as needed
- Maintain risk log/reporting

Staffing/Volunteer Coordinator**Donnet Simmons*****The Learning Center***

- Recruit staff and volunteers from existing human resources
- Assist in planning and scheduling
- Develop and communicate project details, tasks, and scheduling

Director of Student Engagement**Tylisha Miller*****The Learning Center***

- Liaise with schools, faculty
- Communicate project objectives
- Develop teaching tools
- Assist in the development and communication of project details, tasks, and scheduling

Bequia Sargassum Action Group

- Participate in initiation meetings and community town hall meetings
- Assist in identifying community stakeholders
- Assist in the development and communication of project details, tasks, and scheduling
- Provide input and feedback to advisory board
- Staffing, resource development