Climate Smart Agricultural Initiative in the Northern Bahama Region

PROJECT ABACO 2021-2022
BLUE ATLAS PROJECT

Blue Atlas (BA) is chiefly dedicated to working in disaster-stricken areas to provide infrastructure for systems contributing to food security through focusing on sustainable agricultural solutions, bolstering community resiliency and economic independence. We study the pre-existing challenges to farming in each location than introducing tailored solutions designed to overcome the obstacles faced by vulnerable communities. We are thereby best prepared to provide infrastructure for increased local food security, create culturally aware approaches to climate adaptation, and facilitate food related small business initiatives.

We believe in the holistic benefits of nutrition and the security that comes through connection to one’s own food source. Each individual, family, and community deserve access to locally grown, inexpensive, nutritious food. The primary benefits of supporting food security through hands-on training post-disaster are immediate access to locally grown food, knowledge shared for easy systems adoption and reducing dependence on aid and expensive imports. Secondary benefits include economic stimulus by keeping more money circulating locally (studies show this increases the economic impact of each dollar by over 60%) , capacity building, the production of nutrient-dense food, and creation of livelihoods.

PROJECT DURATION: 24 MONTHS

Launch: January 2021  End Date: December 2022

FOOD SECURITY & DEVELOPMENT

Our work is currently focused on Abaco, in the Bahamas, as part of the greater northern Caribbean region. Food security plays a significant role in community development. Our plan will facilitate growth in the food producing supply chain through supporting small business development. This first initiative is the construction of a Food Equity and Sustainability Training (FEAST) Center. As a cornerstone project, it will enable access to new grow technology, sustainable solutions and climate smart approaches to agriculture.

By the end of this project, Abaco will be on its way to developing a local supply chain of sustainable food production that creates jobs, contributes to food security and increases resilience:

- Abacaconians will have access to an experiential training center on (4) climate smart agricultural approaches as a replicable example
  - Aquaponics - first of its kind in the region
  - Hydroponics
  - Vertical Growing
  - Aquaculture - focused on Tilapia to start
- The FEAST Center itself will double as a demonstration school garden offering access to nutritional food, locally and creating a hands-on way was for children to become reconnected to their food source, while being an education and training center
- Effects on Small Business:
  - Establishment of the Bahamas’ first Tilapia Hatchery
  - Expanded farm outputs through system adoption
  - Stimulating new farm creation
  - Value-added goods; increase farm product revenue and stimulate small business development
CHALLENGES IN THE REGION

Island nations present unique challenges. In agriculture, these challenges present as scarcity of land limited access to fresh water and nutrient poor soil. There are localized employment challenges related to an economy dependent on tourism, creating a need for financial incentives to work in agriculture. BA will provide systems that allow individuals to slowly grow to a commercial level while considering their personal financial needs within the rebuilding effort and beyond.

In a location reliant on imports, it is imperative to look at the entire supply chain. Abaco lacks infrastructure for many avenues of the food industry. As we focus our approach, a few small considerations could have a large impact. We are working with Abaco Resurrect, and the One Abaco Foundation to look into larger aquaculture initiatives surrounding the decline of conch and the need for a community processing plant. As well as small scale aquaculture farms of Tilapia.

The rebuild: Dorian’s financial impact was staggering. The storm resulted in an estimated 3.4 billion USD of damage, 87% of which occurred in the Abaco. (Inter-American Development Bank). Nearly 80% of the islands’ homes were destroyed; 90% of the vehicles, leaving 30,000 residents homeless and/or jobless (the latter data is pulled from Grand Bahama and Abaco to show economic impact). Just about all the local businesses were shuttered, most of which are yet to reopen. On the ground, we’ve seen construction/plumbing/groceries in operation, although specific items are unavailable or severely delayed, hampering reconstruction efforts. Roughly half of the permanent residents have returned. The 23-foot storm surge left soil that was already nutrient-poor overly salinated, so we are championing the use of alternative methods.

In the background, Abaco, like the rest of the world, is being tested by the coronavirus epidemic. A billion-dollar tourism economy was decimated when Dorian made landfall and lingered in September 2019. Within 6 months, the global pandemic began limiting supplies from overseas, as well as support from the national government in a country that relies predominantly on tourism. These compounding factors created astonishing delays in the rebuilding process: most of the island didn’t see their electricity restored for more than a year, in October of 2020. It also brought to the forefront the vulnerability of relying heavily on imports for basic needs.
NEEDS ANALYSIS

- According to CARICOM there are 34 million people in the region suffering from hunger due to food insecurity.

- Abaco itself meets all criteria to be defined as a food desert. With only two large grocery stores on the Island located within 1 mile of each other in Marsh Harbor. The main island spans 776 sq. miles with a population of roughly 7,000. The furthest settlements are Crown Haven, located 54 miles to the north, and Sandy Point, 43 miles to the south. These settlements and all of those in between have access to what would commonly be known as "convenience" stores, with limited supplies and a lack of nutrient dense food and produce. Each of the Cays that make up the greater Abaco region are home to similar convenience stores, with an added combined population of 16,000. These are estimates post-Dorian based on numbers provided by government agencies and cell phone carriers. The situation in Abaco is an illustration of what can be seen around the outer islands of the Bahamas and of the greater Caribbean.

- Due to the lack of arable land and limited domestic food production, the Bahamas import over 90% of their food supply and between both agriculture and fisheries their food production capacity comprises just 3% of their GDP.

- Meat consumption is on the rise with the growing population. Aquaculture is already the fastest growing agricultural sector in many nations, including developed countries like the US. There's a 12% increase in demand expected over the next 9 years. We have a secondary farm participating in an aquaculture project to produce fresh water fish for the local community.

- Based off conversations the Blue Atlas team members have had with community organizers and local farmers, there is a need for training around the financial benefits of eating locally-produced, whole foods. In collaboration with local organizations we will be starting a monthly recipe and nutrition post around what is being grown and harvested locally, this will be shared via Community Health Workers, email and social media.

PROJECT PURPOSE

- Actively increase local food production, and supporting the efforts of the community to do so.

- Providing education and training on grow systems and ag technologies.

- Working with the community to stimulate the conversation around food security through outreach, trainings on nutrition and youth engagement.

- Encouraging and assisting in the growth of backyard small shareholder farms and commercial vegetable farms in order to meet the demand of the population.

- Providing a sustainable way for existing farms to increase their yield, economic viability of their farm and nutrient density of their crops.

- Small business development through new avenues for value added goods, and facilitating for those locals interested in related food sector businesses through grants.
THE FEAST CENTER

Hurricane Dorian devastated the Abaco Islands in late 2019. Our Food Equity and Sustainability Training (FEAST) Center represents a new approach designed to increase community resiliency, by promoting and supporting Food Security and sustainable livelihoods within the Abaconian community. We will do this by focusing on education, trainings and capacity building of the food industry and farming community. The FEAST Center will house Hydroponic and first-of-its-kind Aquaponic grow systems on the Island, powered by solar, working towards demonstrating other sustainable options. We will be promoting these solutions through outreach, grants, trainings and our school garden initiative. Our end goal is to leave FEAST as a permanent fixture in the Abacos, our pilot school garden and training center in Marsh Harbor.

While this program initiative is focused on aiding the rebuilding efforts post-disaster. It does reflect what is happening across in the Grand Bahamas, as well as, many Island nations in the Caribbean. What we are demonstrating is a replicable and scaleable operation that could greatly impact climate smart ways the region could sustainable increase vegetable production.

BENEFICIARIES

- We are demonstrating systems with locally sourced material, financially efficient, water conscious, and spatially aware. Offering trainings on agriculture technology, value-added goods and nutrition
- Holding monthly classes on Aquaponics, hydroponics, nutrition and Value-Added Goods: 300/year
- The population of settlements through private market garden adoption: 200-300 in 2021
- The population of Treasure Cay through community garden adoption in partnership with Abaco Strong: 2000
- Schools, students and communities through our school garden initiative: 600-800 in 2021
- Outreach through Harvest of the Month in partnership with ProjectHOPE: 2000-3000
- This program benefits existing and new farmers in a hands-on way. Through one-on-one meetings, business plan and installation support
- The Farming and Food related business community through small grants for start-up business development: up to 25 new businesses
OBJECTIVES

Key project goals over 18 months:

- Construct and launch the FEAST Center; a fully functioning Hydroponic and Aquaponic demonstration school garden and training center
- Provide increased access to nutrient dense food
- Provide training of systems to greater community and schools
- Work with the school garden initiative to provide education regarding sustainable agriculture, nutrition and food security
- Bring on School Person of contact to work with us, oversee long-term management of the gardens and include into curriculum
- Work with community on fish food production and fish hatchery
- Evaluate increased adoption of these systems for personal and commercial use
- Host technical training with Specialists. Train local adopters to be able to carry trainings forward
- Public campaign, Harvest of the Month, that focuses on local produce, recipes and nutrition information beginning in July 2021
- Work with partner organization ProjectHOPE and Community Health Workers to spread Harvest of the Month
- Work with Abaco Strong to construct community aquaponics garden in Treasure Cay community
- See 5 school gardens adopted in 2021, expansion in 2022
- Provide small grants to new farm and food related development in 2022
- See increased trainings on nutrition in 2022

MEASURABLE IMPACTS

How we will evaluate the success of our project:

- New Farm creation
- Sustainability of the FEAST Center yield to maintain cost of garden
- Number of families participating in or impacted by FEAST Center activities
- Number of individual private gardens
- Development of a local Tilapia hatchery
- Development of food related businesses
- Jobs created or enhanced from Blue Atlas facilitation