

Final Report for “Working towards Sustainable Development Goal SDG 13: Climate Action through the Use of Climate Smart Technologies Project (Climate Action Project)”



Shacara Lightbourne
Acting Country Representative and Technical Specialist,
Delegation in The Bahamas

Email: Shacara.lightbourne@iica.int

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Project Overview

The Climate Action Project is implemented by the Inter-American Institute for Cooperation on Agriculture (IICA) Delegation in The Bahamas and funded by Ministry of Agriculture and Marine Resources MAMR in The Bahamas. The letter of Agreement between IICA and MAMR was signed on September 16th, 2020.

The Expected Outcome of the project is to have an increased awareness and adaptation of the climate-smart and resilient practices and technologies

(i) Objective:

1. Raise awareness on the Sustainable Development Goals (SDGs) with specific focus on climate change impacts on agriculture
2. Encourage the development of production systems using climate-smart and resilient technologies
3. Gain an understanding of practices that are taking place to address climate change at the individual and community levels in line with the draft Climate Change Policy

(ii) Outputs:

1. Increase awareness of the impacts of climate change on agricultural and food production systems amongst 100 farmers and interested persons on each island
2. Train 200 farmers to adapt climate smart agricultural practices and technologies through demonstrative production systems
3. Build resilience of 100 farmers' impacted by Hurricane Dorian on Abaco and Grand Bahama Islands
4. Eight (8) training workshops sessions to be recorded and broadcasted nationally as an extensions tool for further generation of awareness and co-sharing of knowledge

Executed Activities

The team that executed the activities were Shacara Lightbourne, Acting Country Representative and Technical Specialist (IICA), Dr. Abimbola Abiola, Climate Change and Natural Resources Specialist (IICA) and Jeri Kelly, Agricultural Officer (MAMR). Ellison Gomez of New Jutsu Media was hired to record the lectures and create a promotional video for the project. In accordance with the contract, IICA created all the training materials inclusive of lectures, practical methodologies and with the assistance of MAMR where necessary organized the logistical aspects of the activities. The Climate Action Project is currently 75% completed and is proposed to be 100% completed at the end of May 2021.

The face to face Organic Waste Management workshops were held on five (5) islands. The islands included are Abaco, Grand Bahama, New Providence Eleuthera and Cat Island. The workshops were comprised of theory and practical and lasted 2 days with the exception of New Providence which was an abridged 1 day workshop. A combined total of 93 participants attended the workshops face to face.

All workshops covered the topics of i) Waste stream analysis ii) Integrated waste management systems iii) The Science of composting iv) Composting systems and management v) Compost quality and use vi) Hurricane debris management vii) Hierarchical approach to debris management. Due to COVID 19 protocol the team received PCR tests before travel with special permission to be exempted from quarantine from the Office of the Prime Minister. The workshops were purposely limited to 20 people to comply with the government protocol. The strategy to reach more beneficiaries was to record the lectures so they could be placed on the MAMR's website to be accessed by those who were not able to participate in the workshop in person. The videos were edited into five (5) one (1) hour sessions to make the content more palatable to viewers and were submitted for review for vetting by the MAMR.

Five (5) compost demonstration sites were established on each island as a part of the practical aspects of the project. On each island different materials identified and were used to make up compost recipes that would be familiar and available to the participants of each island. The participants were taught how to use a moisture meter to test the water content of the compost and a thermometer to test the internal temperature of the compost which is critical to creating a finished compost product. The instruments were left with participants on each island for the demonstration to be maintained.

Executed Activities - Abaco Workshop September 28th- 29th, 2020

Venue: The workshop was held at the government complex in Marsh Harbour Abaco on Day 1 of the workshop. Day 2 was held at the Abaco Neem Farm followed by the Department of Agriculture site in Central Abaco

Number of Participants: 16 people participated in the Abaco workshop

Demo site Location: Department of Agriculture site in Central Abaco

Facilitator: Dr. Abimbola Abiola (IICA)

Accompanying team members: Shacara Lightbourne (IICA) and Jeri Kelly (MAMR).

On the ground support: Mrs. Josephina Adderley Curry, MAMR Agricultural officer was the contact that IICA liaised on the island of Abaco. Mrs. Curry assisted with coordination of the venue, transportation and sourcing of raw material for compost demos.



Executed Activities – Grand Bahama Workshop September 30th – Oct, 1st 2020

Venue: The workshop was held at the Jeremie's Auto Training room in Freeport Grand Bahama on Day 1 and at the Rand Nature Centre in Day 2.

Number of Participants: 24 people attended the workshop

Demo site Location: The Rand Nature Centre

Facilitator: Dr. Abimbola Abiola

Accompanying team members: Shacara Lightbourne (IICA), Jeri Kelly (MAMR), Ellison Gomez (NJM).

On the ground support: Jeri Kelly and Elseworth Ware (BNT)



New Providence Composting Workshop October 3rd, 2020

Venue: The workshop was held at the Fisheries Lab Training Room at GRAC.

Number of Participants: 10 people attended the workshop

Demo site Location: Expo site at GRAC

Facilitator: Dr. Abimbola Abiola

Accompanying team members: Shacara Lightbourne (IICA) and Jeri Kelly (MAMR)



On the ground support: Gina Pierre MAMR



Eleuthera Composting Workshop October 5th – 6, 2020

Venue: The workshop was held at the One Eleuthera training Facility and the CTI Farm in Rock Sound Eleuthera

Number of Participants: 16 people attended the workshop

Demo site Location: CTI Farm

Facilitator: Dr. Abimbola Abiola

Accompanying team members: Shacara Lightbourne (IICA), Jeri Kelly (MAMR), Ellison Gomez (NJM).

On the ground support: Deon Gibson (OEF) and Mike Lightbourne (OEF)



**Executed Activities – Cat Island
Bahama November 6th – 6th
2020**

Venue: The workshop was held at the Resource Centre in Knowles and Cat Island Farmers Association Headquarters

Number of Participants: 27 people attended the workshop

Demo site Location: Cat Island Farmers Association Headquarters



Facilitators: Shacara Lightbourne and Jeri Kelly

Accompanying team members: Shacara Lightbourne (IICA), Jeri Kelly (MAMR), Ellison Gomez (NJM).

On the ground support: Ivan Cleare (CIFA)



Executed Activities - Climate Action Webinar November 26th, 2020

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Webinar

SDG 13: How can agriculture tackle climate change effects in The Bahamas and the Caribbean?

13 CLIMATE ACTION

November 26th
2:30 p.m. (ET)

Broadcast:
www.iica.int

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Ms. Jeri Kelly
Agriculture Officer, Ministry of Agriculture and Marine Resources, The Bahamas

Dr. Víctor Falguera
Agriculture Engineer and Co-Founder AKIS International and E-STRATOS Geosystems, Spain

Ms. Shacara O. Lightbourne
Acting Country Representative and Technical Specialist IICA Bahamas

<https://fb.watch/4keTocxUEa/> (webinar link)

In order to continue to meet the objectives of the Climate Action Project, a webinar was held on November 26th to address SDG 13 which urges to take immediate action to combat climate change and its impacts. The webinar addressed ways to strengthen resilience and adaptive capacity to climate related hazards and natural disasters, integrate climate change measures into national policies, strategies and planning and finally how to impact high level decisions from a local and regional perspective. The webinar was broadcast on both IICA's Facebook and YouTube platforms and was to date was viewed 847 times. The beneficiaries of the webinar were both national and international and showcased that Ministry of Agriculture and Marine resources commitment to SDG 13.

Agenda

Introduction and Welcome by moderator

Opening remarks from the Ministry of Agriculture and Marine Resources (MAMR) in The Bahamas

Introduction of Presenter by moderator

Presentation by Dr. Víctor Falguera

Question and Answer Session

Closing Remarks

- Travel arrangement due to COVID 19 protocols and infrequency in flights. In the case of Cat island, the team was forced to stay an extra day to wait for the next available flight
- The inability of the international consultant to travel to the Cat Island workshop due to COVID restrictions and retirement. However, the workshops were executed seamlessly by Shacara Lightbourne and Jeri Kelly
- Project delays due to scheduling and administrative issues

Bio gas training workshops

Bio gas training workshops were held on the islands of New Providence on June 5th, 2021 and Grand Bahama on June 12th, 2021.

The objectives were to teach:

- Design and installation guide for family biodigesters.
- Low-cost family biodigesters.
- Concepts in the design of a family biodigester.
- Anaerobic digestion.
- Temperature and Retention Time.
- Determination of the Total Volume of the biodigester.
- Biogas production.
- Biogas consumption.
- Production and applications of the biofertilizer.
- Optimal relationship between length and diameter of the biodigester.
- Dimensions of the biodigester trench.
- Design example of a biodigester (Chicken farm and Pig farm).

New Providence



Venue: Department of Fisheries training Lab and Nature's Way Poultry Farm

Number of Participants: 19 people attended the workshop



Demo site Location: Nature's Way Poultry Farm

Facilitators: Ihosvanni Cuesta Mola and Oscar Hernandez Wade

Accompanying team members: Shacara Lightbourne (IICA), Jeri Kelly (MAMR)

Grand Bahama – Biogas training

Venue: Jack Hayward School

Number of Participants: 25 participants

Demo site Location: Berkshire Bahamas Farms

Facilitators: Ihosvanni Cuesta Mola and Oscar Hernandez Wade

Accompanying team members: Shacara Lightbourne (IICA), Jeri Kelly (MAMR)



Follow up and Conclusions

- IICA will continue to follow up with the participants of the trainings for the next six (6) months to ensure the sustainability of the demos established. IICA will continue to provide technical support to the participants trained through communicating via a Whats app group that was created for the participants
- IICA will continue to work with the Ministry of Agriculture and Marine Resources (MAMR) to finalize video recordings and guidebook content are satisfactory for the MAMR's needs.

Project Expenditure

Expense Items	Units	Total
Per Diem Abimbola	13 days	\$ 3,180.00
Per diem Shacara abaco and Grand Bahama	4 days	\$ 1,060.00
Abimbola consultant days	22 days	\$ 6,600.00
Abimbola Covid test		\$ 125.00
Abimbola Luggage		\$ 60.00
Local technical specialist fee	30 days	\$ 6,930.00
Per diem Eleuthera Shacara	2 days	\$ 530.00
Adrian Newbold Catering (Abaco)	2 days	\$ 800.00
Shacara COVID test *Abaco	1 test	\$ 134.40
Fuel GB car rental		\$ 15.00
Workshop notebooks (GB)		\$ 25.87
Parking at NAD GB and ABACO		\$ 45.59
Drinks for GB workshop		\$ 50.00
T. Roberts Manure for GB workshop		\$ 60.00
Car rental in GB	2 days	\$ 134.29
Covid test GOMEZ	1 test	\$ 134.40
Simone Thompson Catering (Nassau workshop)	1 day	\$ 500.00
Gomez per diem GB	2 days	\$ 530.00
Gomez Per diem Eleuthera	2 days	\$ 530.00
Shenique Smith Catering (Eleuthera)		\$ 550.00
Heather Feaster Catering (Grand Bahama)	2 days	\$ 650.00
Covid test GOMEZ Cat island		1 \$ 134.40
Covid test Lightbourne Cat island		1 \$ 134.40
Gomez Per diem Cat island	3 days	\$ 795.00
Lightbourne per diem Cat island	3 days	\$ 795.00
Hot Spot Cat Catering (Cat Island)	2 days	\$ 713.00
Venue for Grand Bahama workshop		\$ 112.00
Cat Island Car	3 days	\$ 218.40
Premier Travel		\$ 4,490.85
Workshop supplies moisture meter, thermometer etc		\$ 877.36
Video Consultant fee (lectures and promo video)		\$ 1,500.00
Video Consultant fee (biogas GB)		\$ 1,500.00
Bookworld (workshop supplies)		\$ 415.16
Fuel		\$ 626.00
Refreshments Biogas workshop Nassau		\$ 400.64
Refreshments Biogas workshop Grand Bahama		\$ 400.00
IBC tote Nassau		\$ 150.00
IBC tote Grand Bahama		\$ 185.00
Biogas consultants		\$ 1,000.00
Biogas consultants per diem		\$ 1,060.00
Lightbourne per diem GB bio gas		\$ 530.00
Covid test for Mola (biogas)		\$ 134.40
Covid test for Oscar (biogas)		\$ 134.40
Covid Test Jeri Kelly		\$ 145.60
Covid test Shacara Lightbourne		\$134.40
Travel visas		\$150
Car rental GB		\$ 125.00
Climate Action guide booklet - Gordon and Clare		\$ 2,000.00
Total		\$ 41,505.56
ICR administrative		\$ 3,658.89
GRAND TOTAL		\$ 45,164.45