

***Achievements and Work Plan of the Water Management and
Climate Change Unit & Achievements and Work Plan of the
Project Execution Unit***

**Ministry of Agriculture, Food Security and Enterprise
AGM**

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POLICY GOALS

- ▶ The overall goal of the Ministry is to increase, diversify and sustain agricultural production, food security, income and employment generation in Belize.
- ▶ To achieve these goals, we will require increasing farm-level capacity, improve technology and innovation, raise labor productivity, and be regionally competitive.
- ▶ Achieving these goals will enable Belize to increase exports, reduce food imports and improve the livelihood and well-being of rural communities.

POLICY PRIORITY #6

Build resilience to climate change disasters and risks management through education, preparation, diversification and innovative climate-smart systems of land use, for the producers and farmers in high-risk prone regions of the country.

- **Develop institutional capacities and provide training to farmers on climate-smart systems and practices.**

POLICY PRIORITY#6

- ▶ Expand the use of irrigation, hydroponics and greenhouse technology to produce high quality products.
- ▶ Mobilize financing from international finance institutions and other organizations interested in sustainable agriculture, agroforestry, the environment and resource conservation, climate change management, climate-smart agriculture and risk management innovations.

***WATER MANAGEMENT /CLIMATE CHANGE/
PROJECT MANAGEMENT IS CROSS CUTTING***

All Program Coordinators within MAFSE

Various Line Ministries and Departments

Partners in Development

International Financial Institutions

ACCOMPLISHMENTS-2020 (FOOD AND ORGANIZATION -TECHNICAL COOPERATION PROGRAMME USD 100,000)

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Irrigation and drainage investments have potential to:

- (i) Sustainably increase productivity,
- (ii) Enhancing resilience, and
- (iii) Allows farmers to deliver fresh produce during the dry season

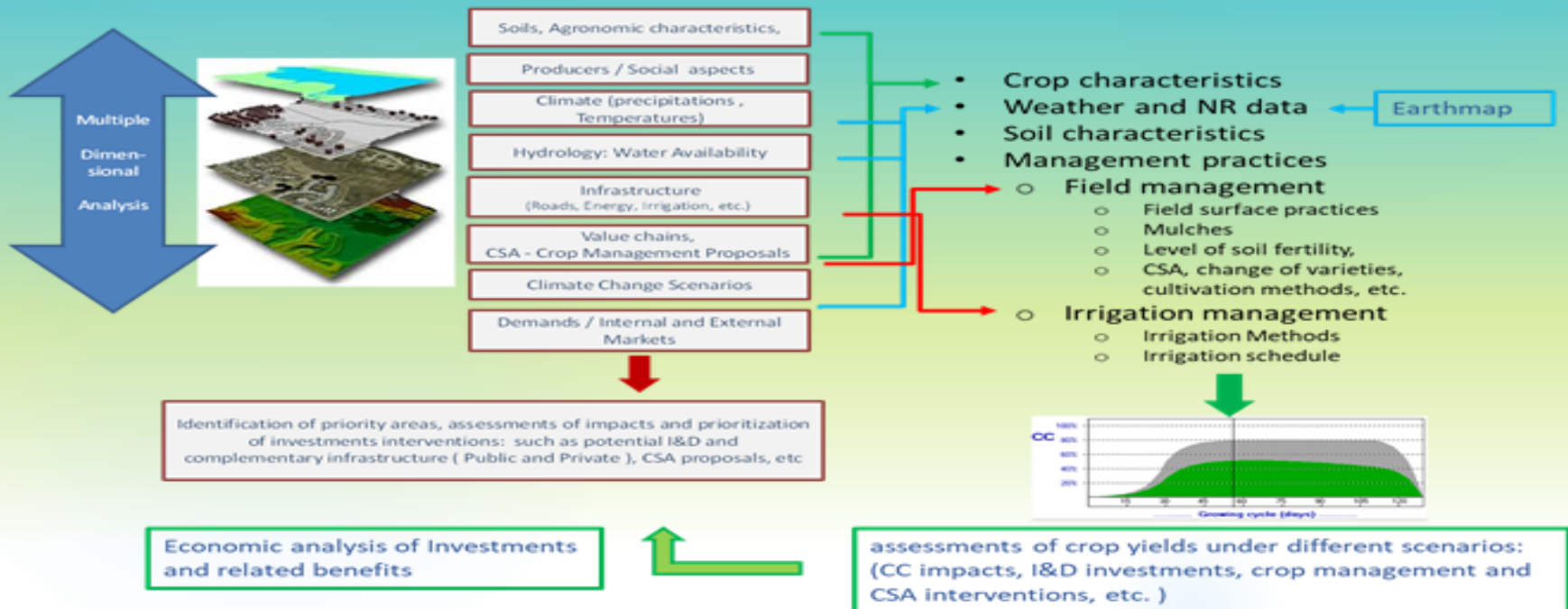


ACCOMPLISHMENTS-2020 (FAO-TCP)

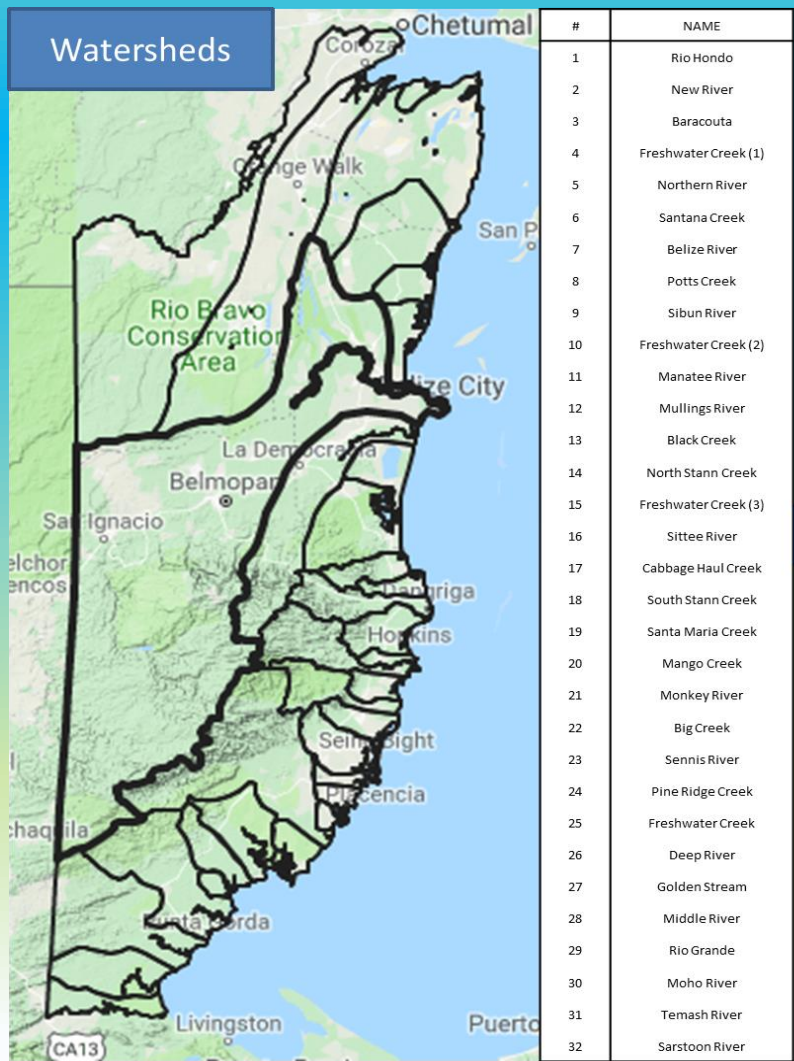
Gather, evaluate and systematize technical and environmental information to make informed decisions on activities that should inform the design and implementation of a national irrigation and drainage master plan.

Methodological Approach

Identification of potential Infrastructure investments per watershed Multi-dimensional analysis



ACCOMPLISHMENTS-2020 (FAO-TCP)



Climate and Climate Change

Natural Resources

Social/Economic

Temperature (MIN-MAX)

Precipitation

Projections

DEM/Soil

Surface Water

Land Cover

Infrastructures

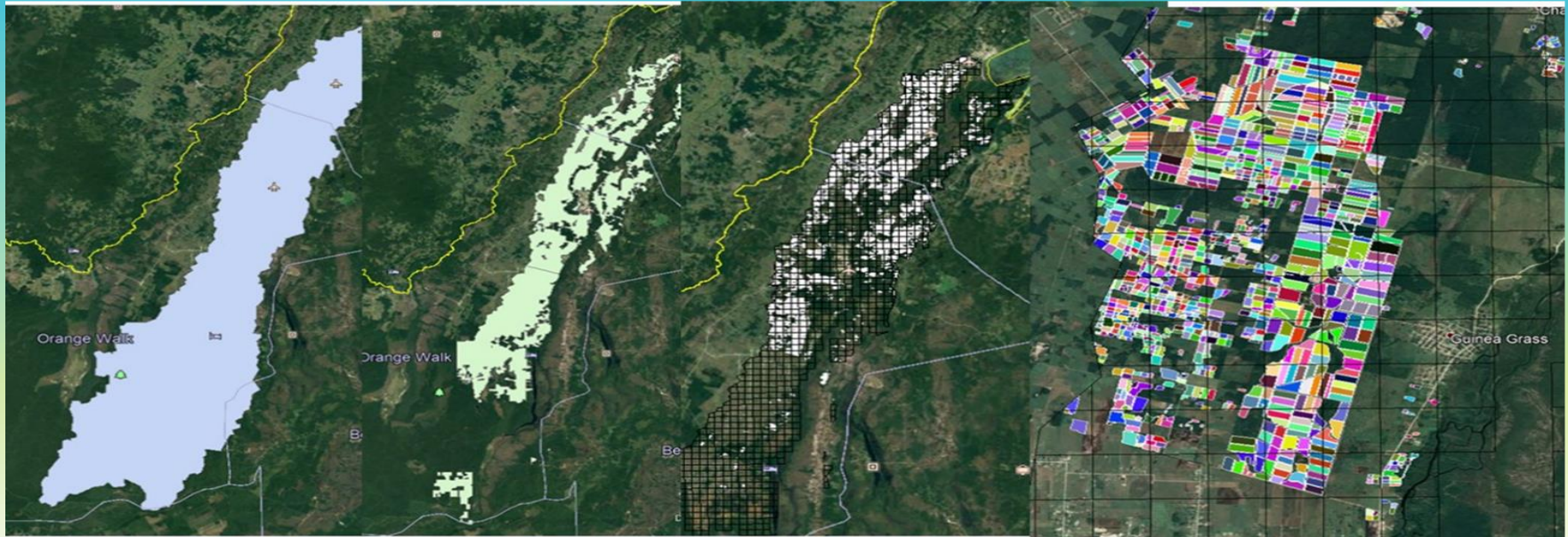
Land Use / Agri-census

Demography

ACCOMPLISHMENTS-2020 (FAO-TCP)

The information was used to inform and develop a digital platform which will support the identification/selection of areas to promote the expansion of Belize's national irrigation and drainage systems.

Identifying the relevant "blocks"



New River Watershed

New River Agriculture

New River Sugar Cane

New River Sugar Cane 5km2 grid

ACCOMPLISHMENTS-2020 (CDF-USD118,356.50)

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Cover structure project which is to lend Support to Small Disadvantage Farmers. The project was approved in late 2019. The POC has been constituted and the project is currently under implementation.



ACCOMPLISHMENTS-2020 (CDF)

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- ▶ Project is designed to increase the efficiency of vegetable production under cover structure by improving construction design and installing irrigation systems. At least 30 farmers or farmers groups who are registered in BAIMS will benefit from this project.
- ▶ Preparation of bid documents for goods and services has taken place and launching of bidding document is under way.



ACCOMPLISHMENTS-2020 (CDF- HONEY PRODUCTION REDEVELOPMENT SUPPORT PROJECT USD 281959.00)

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In December 2019 CARICOM Development Fund/ GOB Bee Keeping Project was launch.

Project Objectives:

- ▶ Increase rural livelihood opportunities through beekeeping in farming communities especially among women and youth.
- ▶ Increase national honey production.
- ▶ Increase the quality of honey and honey products through the promotion of standards and good manufacturing practices.

***The project is targeting 75 new beekeepers and 30 experience beekeepers from all 6 district with **50% of the direct beneficiaries being women and youth.**

ACCOMPLISHMENTS-2020 (CDF)

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- ▶ In January 2020, 13 participants (new honey producers and technicians) attended the two weeks training in Guatemala.
- ▶ The training consisted of 5 modules and introduced participants to all the aspects of beekeeping from the biology, best practices, pest and disease management, queen rearing, value addition and marketing of honey.



ACCOMPLISHMENTS-2020 (CDF)

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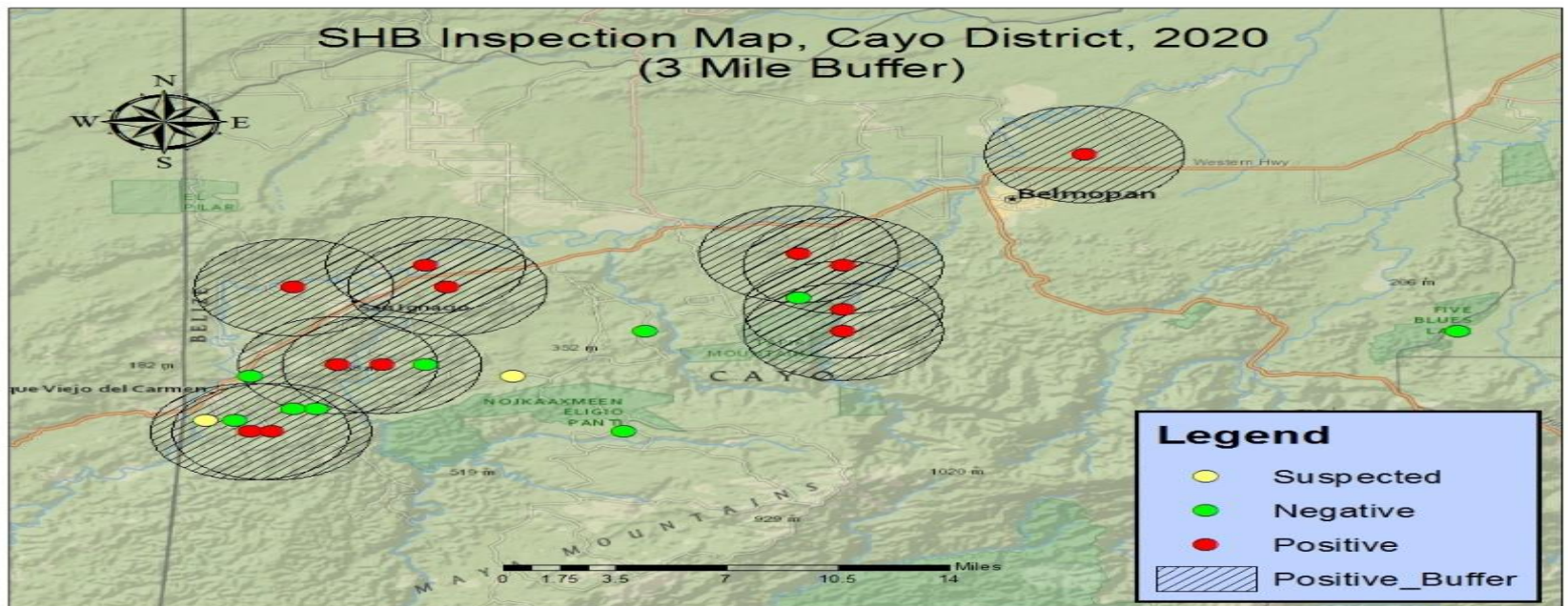
- ▶ **Technical support to UB Students.** The beekeeping technical team along with faculty of UB Central farm collaborated to implement practical training session for UB students to participate in all aspects of beekeeping as part of their UB training curriculum .



ACCOMPLISHMENTS-2020 (CDF)

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In July and August of 2020, a rapid assessment was done to determine the present distribution and impact of small hive beetle in the Cayo district. Twenty-one (21) beekeepers were visited and a total of 217 beehive was inspected for small hive beetle.



ACCOMPLISHMENTS (2020) (IAEA- USD 400,000)

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- ▶ International Energy for Atomic Agency (IAEA). Initiate discussions and started project planning with key stakeholders for the formulation of a project.

Nuclear and Isotopic Techniques for Optimizing N Fertilizer Use Efficiency in Rainfed Agriculture Systems.

- ▶ Project document is currently under revision and project implementation is scheduled to commence in Early 2022.

ACCOMPLISHMENTS (2020 ENGENER USD 75,000.00)

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- ▶ Through the Enabling Gender-Responsive Disaster Recovery, Climate and Environmental Resilience in the Caribbean (EnGenDER) project which is administered by UNDP the Ministry of Agriculture was able to develop a proposal for USD 75,000. 00. The assistance was primarily for small farmers affected by 2019 drought and flooding in 2020.



ACCOMPLISHMENTS 2020

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Collaborated with IICA and provided guidance for the development of their GCF project “Building Climate Resilient ‘Guardians of the Forest and Regenerative Agriculture’ Communities in Forest Buffer Zones Across Rural Belize”. The project has been thoroughly reviewed by the Ministry of Agriculture and has its full support and endorsement.



ACCOMPLISHMENTS 2020 (USD 8M. CERC)

- ▶ Designed, Wrote and started the implementation of the Contingent Emergency Response Component (CERC) Project. CERC is a BZD16 M project financed by the World Bank and the Government of Belize. The project was designed to assist farmers who were affected by Market Contraction caused by Covid 19 and the 2019 drought. The project started in August 2020 and will be completed in August 2021. Farmers must be registered in BAIMS and must be growing commodities such as beef cattle, dairy cattle, sheep, pigs, commercial poultry, grains and pulses (rice, corns, RK beans, Black beans, pinto beans) , vegetables (cabbage, sweet pepper, onions, tomatoes, potatoes).

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ACCOMPLISHMENTS (CRESAP)

Draft Proposal entitled Climate Resilient Sustainable Agriculture Project (CRESAP) USD 25M.

The Project Development Objective is to increase agricultural productivity and build resilience to climate change risks amongst targeted producers, and to respond effectively to an Eligible Crisis or Emergency event.



CRESAP

Component 1: Institutional Strengthening

1.1 Strengthening the Capacity of Relevant Government and Academic Institutions

- Enhance the capacity of key, relevant departments of the MAFSE and other institutions to strengthen the delivery of services under their remit.
- Reinforce the e-extension capacity of the MAFSE and other institutions like the National Met Service.
- Explore different risk management strategies and the feasibility of associated financial instruments (insurance) to better manage the risks due to extreme weather and climate events.

- ▶ **1.2 Strengthening Participating Financial Institutions, Individual Farmers, and Farmers Organizations' Capacity**
- Provide support to participating financial intermediary stakeholders.
- Strengthen the organizational, operational, technical and business capacities inter alia of farmers and farmers' organizations (FO) supported via the project.



ACCOMPLISHMENTS 2020

Component 2: Promotion of On-farm CSA Technologies and Practices

- **2.1 Maximizing Finance for Development (MFD):** Provide matching grants for CSA equipment, infrastructure and technologies.
- Support farmers/producers' organizations to access to finance.
- Provide technical support to identify needs, design and implement proposals.

2.2 Provision of Complementary Collective Goods to Strengthen Resilience

- Collective small-scale water harvesting and drainage

ACCOMPLISHMENTS 2020 BZD 45,000.00

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- ▶ Lending support in maintaining the canal for the Valley of Peace farmers association



ACCOMPLISHMENTS

- ▶ Numerous Consultations to assist with the development of National Policies and Projects.
- ▶ Reducing Emissions from Deforestation and Forest Degradation (REDD+)
- ▶ Nationally Determined Contribution (NDC) Climate Change Office
- ▶ National Climate Change Monitoring Reporting and Verification (MRV) system
- ▶ Forth National Communication Project
- ▶ Resilient Rural Belize Project

OBJECTIVES 2021

- 1. Mobilize financing for the implementation of at least 2 internationally funded project.
- 2. Coordinate with program coordinators to develop institutional capacities and provide trainings to farmers on climate-smart systems and practices.

OBJECTIVES 2021

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- 3. Ensure the successful implementation of ongoing projects under the Project Execution Unit.
- 4. Support line ministries and partners in development in the formulation of strategies and policies relating to water management and climate change.

WORK PLAN 2021

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Objective 1. Secure funding for the implementation of at least two project relating to WMCC

Activities	Outputs	Outcomes
1. Consult with stakeholders to finalize project documents.	At least 2 climate change and water related project completed and set for implementation	Climate smart farm investments, including water and energy efficient irrigation and agricultural technology including processing

Objective 2 : Coordinate with program coordinators to develop institutional capacities and provide trainings to farmers on climate-smart systems and practices.

Activities	Outputs	Outcomes
<p>2.1 Support Livestock Coordinator in conducting training in pasture management, improved grasses and nutrition, genetics, and water access as a means of CC adaptation</p>	<p>100 livestock farmers trained, Farmers implement proper pasture management, improved genetics, and have water access during the dry season</p>	<p>Reduced mortality Increase Income Increased exports and Improved livelihood</p>
<p>2.2 Support the Horticulture, Research and, Agro processing coordinators and cooperatives in conducting varietal trials for selection of potato varieties adequate for making French fries</p>	<p>At least 5 varieties tested</p>	<p>Selection of at least 1 variety adapted for the purpose of fries.</p> <p>Reduce importation of potatoes</p> <p>Stimulate small businesses (cooperatives) to venture into processing and packaging of potatoes for French fries</p>

SEASONAL WEATHER FORECAST & ITS EFFECTS TO AGRICULTURAL HEALTH

FOR BELIZE

March to May 2021

Alert Level

No Concern

Drought Watch

Drought Warning

LIVESTOCK	Zone	District	Possible Effects and actions to mitigate effect
1 Poultry	North	Corozal & Orange Walk	<p>Monitor and report possible case of diseases like New Castle and Fowl Pox</p> <p>Vaccinate for New Castle and Fowl Pox</p> <p>Continue monitoring and provide adequate water and feed supply to poultry barns in drier days</p> <p>Maintain biosecurity measures in poultry farms and barns</p>
	Central Inland	Cayo	<p>Monitor and report possible case of diseases like New Castle and Fowl Pox</p> <p>Vaccinate for New Castle and Fowl Pox</p> <p>Continue to monitor and report any possible case of these diseases.</p> <p>Continue monitoring and provide adequate water and feed supply to poultry barns in drier days</p> <p>Continue to provide adequate ventilation in drier days to the barns</p> <p>Implement adequate water storage systems for the upcoming drier months</p> <p>Increase biosecurity measures in poultry farms and barns</p>
	Central Coastal	Belize	<p>Monitor and report possible case of diseases like New Castle and Fowl Pox</p> <p>Vaccinate for New Castle and Fowl Pox</p> <p>Continue monitoring and provide adequate water and feed supply to poultry barns in drier days</p> <p>Maintain biosecurity measures in poultry farms and barns</p>

Objective 3. Ensure the successful implementation of ongoing projects under the project unit.

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Activities	Outputs	Outcomes
3.FAO-- Capacity building AGRI tool, Earth Map and Cropwat (phase 2)	15-25 participants trained (MAFSE staff, Line Ministries, Partners in Development)	Participants utilize tools to educate on irrigation scheduling and locating adequate areas for water harvesting.
3.1 CDF---Support the implementation of the CDF cover structure project. <ul data-bbox="79 1011 755 1225" style="list-style-type: none">• Procurement• Selection of farmers and farmer groups• Assembling of cover structures	At least 30 Small Disadvantage Farmers will engage in the cultivation of vegetables under cover structures	Reduced pesticides and herbicides, and increase production, increase income, better water productivity and water use efficiency

Activities	Outputs	Outcomes
CDF --- Placement of interns with mentors	72 interns placed with mentors to learn good bee keeping management practices and honey production	Healthy and thriving beehives, 34 reduce swarming, increase production
Collaborate with partners to facilitate training on Standards and classification of honey and honey products. Level 1& level 2 training	All participants train	Improved quality, honey grades
Maintenance of demonstration apiary	Technical staff keep acquiring experience, Knowledge transfer to those who are interested in honey production ,	Well trained staff in honey production and honey products
Distribution of Equipment successful participants	Business start up and continuity	Increase national honey production, improve livelihood

Activities	Outputs	Outcomes
<p>3. Contingent Emergency Response Component (CERC). Distribution of voucher and debit to farmers who suffered from 2019 drought and market loss caused by covid 19.</p>	<p>10,000+ farmers assisted with vouchers and cash support</p>	<p>Production continuity, Income generation, Improved livelihood</p>
<p>4. Working with farmers groups: Training in climate smart practices in Irrigation & drainage, cover crops, improved varieties, preparation and use of organic fertilizers and biological control, training and use of application herbicides and pesticides. Integrated Disease and Pest Management</p>	<p>Increase water productivity and efficiency. Reduce H2O contamination, Increased yield Better quality</p>	<p>Increase Income Improve livelihood Increase awareness in the use of agrochemicals</p>

Activities

Disbursement of vouchers to sugarcane farmers who were affected by 2019 drought. Assistance under the GOB/ CDB assistance entitled “Enhancing Resilience to Natural Hazards Events in the Agricultural Sector

Outputs

Sugar cane farmers in CZL/OW receiving support – input and services for sugarcane field rehabilitation

Outcomes

Increase Production/
Income
Improved livelihood
Increased exports



Objective 4. Support MAFSE, line ministries and partners in development in the formulation of strategies and policies relating to water management, climate change and agriculture.

Activities	Outputs	Outcomes
<p>4. Attend virtual webinars, meetings, consultations for the development of national plans, projects, strategies and policies.</p>	<p>At least 3 national policy document produced from various stakeholder consultations and bilateral</p>	<p>Compliance with various conventions and treaties and Increase opportunity for acquiring external funding. Enforcement of environmental regulations and good governance as reflected in policy documents</p>
<p>Support the Resilient Rural Belize Project</p> <ul style="list-style-type: none"> • Value Chains Analysis and Market Assessment • Strengthening of Producers' Organizations • <i>Development of value chain Business Plans (BPs):</i> 	<p>Strengthening of Producer Organizations Training on climate resilient agricultural practices. improving small farmers' entrepreneurial capabilities to identify and exploit market opportunities</p>	<p>The programme will reach a total of 6,000 households, or 30,000 persons. The number of people with strengthened resilience would be 24,000 (80% of all persons reached).</p>

ASSUMPTIONS/RISKS

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Assumption	Risk
Coordinators, Stakeholders' and inter ministerial buy in and support	Cooperation/ communication
Funding of projects i.e., internal/ external support	Sustainability
Human resource to accomplish the task	Covid 19 pandemic
Monitoring and evaluation of project to ensure project objectives are met	Inconsistent monitoring and untimely reports will affect project
Farmers adhere to good management practices and inputs acquire through voucher system is utilized in the field	Reduce yield and increase pest infestation, lower income

thank you!