

# Simplified Approval Process

## Annex 2a: Logical framework



GREEN  
CLIMATE  
FUND

# LOGICAL FRAMEWORK TEMPLATE

## LOGICAL FRAMEWORK

*This section refers to the project/programme's logical framework in accordance with the GCF's Integrated Results Management Framework to which the project/programme contributes as a whole, including in respect of any co-financing.*

### 1. GCF Impact level: Paradigm shift potential (max. 300 words)

*This section of the logical framework is meant to help a project/programme monitor and assess how it contributes to the paradigm shift described in section D.2 above by applying three assessment dimensions - scale, replicability, and sustainability.*

Prolonged dry days, increasing mean temperatures and erratic precipitation continues to disadvantage small holder farmers in Northern Belize. Traditional farming practices are no longer able to overcome challenges brought on by a changing climate. Farmers' lack of varietal diversity, inefficient land and water resource management, limited knowledge transfer, inter alia, have led to low adaptive capacity leading to high sensitivity and exposure to climate threats. As a result, making these farmers extremely vulnerable to the impacts of climate vulnerability and change. The proposed project will take significant steps, in a collaborative and transformative manner, to convert sugarcane farming into a resilient, adaptive and carbon neutral industry. Project activities will facilitate the move from the business as usual way of farming to one that's climate responsive. Climate resilient seed nurseries across the sugar belt along with the implementation of complimentary farming practices, capacity building, knowledge transfer, and wise use of natural capital will allow for the scaling-up of a comprehensive model for resilient sugarcane farming. A technical team comprising expertise from the Ministry of Agriculture, Belize Sugar Industries Limited, and the Sugar Industry Research and Development Institute will engage directly with the pioneer men and women for three cane farmers' group. Upscaling of an innovative farmer friendly data and information platform integrated multi-stakeholder financial and farm services model, hands-on and result based training of farmer field schools and increase availability of agro-credit and agro-services will change the attitude, behaviour and mind-sets of over 45,000 direct beneficiaries. The scaling up, reflexive learning combined with a comprehensive set of climate smart field management techniques will allow farmers to adapt to the long-term impacts of climate change while currently responding to the challenges of climate variability.

Assessment Dimension	Current state (Baseline)		Potential target scenario (Description)	How the project/programme will contribute (Description)
	Description	Rating		
<b>Scale</b>	1) 60+% of planted sugar cane consists of a single variant. 2) Limited climate smart agronomical practices are being implemented 3) Only test and selected sample sites are correctly prepared have been harvested mechanically 4) No irrigation exists 5) Drains are in a poor	<u>Low</u>	The impact target will be to the following in response to the specific scale dimensions: 1) Develop the systems to reduce the reliance on B79 to acceptable levels 2) Develop knowledge systems to enable farmers to use best practise across the farmer planted areas, with the aim of delivering industry wide impact	1) Development of 974 acres of seed cane nurseries to support continuous diversification of seed cane; 10000 acres replanted with newly identified cane varieties. Collaboration with regional seed cane breeding programs will help ensure the resilience of the varieties being developed throughout the region. 2) Climate Smart Agriculture training strategy developed for the industry and 2,800 industry stakeholders trained

	<p>condition and need of upgrading to mitigate impact of flooding.</p> <p>6) Industry does not have a transformation forum that enables industry alignment.</p> <p>7) Industry does not have a digital system to support and inform decision making</p>		<p>3) Ensure farmer models are identified and where applicable, lands are prepared for mechanical harvesting.</p> <p>4) Systems and knowledge for irrigation developed to roll systems out in the decades to come.</p> <p>5) Catalyse the drainage master plan to ensure acceptable drainage is developed by the farmers with the support of the industry in the years to come</p> <p>6) Continuous development as a result of improved relations and industry alignment</p> <p>7) A wholistic digital solution that provides the data linkages to improve industry efficiency and transparency</p>	<p>3) Participatory process of identifying applicable farmer models. Training delivered to Technical staff from SIRDI, BSI, Farmer's Association, Ministry of Agriculture, Ministry of Natural Resources and Department of the Environment and farmers on farmer models identified. 10000 acres replanted according to new and existing farmer models.</p> <p>4) 2000 acres irrigation developed. Moisture management training. Irrigation service provider capacity development in region</p> <p>5) 1000 acres drainage developed. Moisture management training. Drainage service provider capacity development in region</p> <p>6) Yearly industry forums to provide a platform for communication.</p> <p>7) Technical system(s) capacitated for industry use to collect data that will inform strategic and operational decisions</p>
<p><b>Replicability</b></p>	<p>1) There is no seed cane production and distribution system for the industry</p> <p>2) CSA replanting and ratoon management practices are limited and is not aligned with best practices.</p> <p>3) There is no standardise Irrigation and Drainage criteria for the industry.</p> <p>4) There is training and capacity building strategy for the industry</p>	<p><u>Low</u></p>	<p>1) The project will support the development of new seed cane nurseries within the industry (owned by either farmers or farmer associations). The process of identifying, training and developing the seed cane collaborators will be a replicable process and will be repeated post project to supply seed cane to effectively replant 65,000 acres.</p> <p>2) The implementation of CSA practices will be required by the project and be delivered by the farmers and local service providers. These practises are best international practice and the process of identifying and training of farmers and service providers to conduct the various farm activities is a replicable process</p>	<p>1) Seed cane variety breeding and rollout program that will be supported by the project will be a replicable process that can be transferred to any region and across many crops.</p> <p>2) The irrigation and drainage implementation plan can be replicated across crops that require supplementary irrigation and in-field drainage. This will include detailed design criteria and service provider requirements.</p> <p>3) Developing a CSA training strategy that doesn't only focus on the agricultural activities required, but the cause of climate change, the mindset shift that is required, the business sense to make the change and then finally the activities to adapt to climate change can be a strategy for all sectors and locations.</p>

			<ul style="list-style-type: none"> <li>3) The technical and socio-economic criteria for implementing irrigation and drainage could be used in any region. The training and capacitating process to develop new service providers will also be a replicable process for any location or crop</li> <li>4) The increase soil and crop condition will result in increased yield. These practices will show the potential of the environment and become a driving factor for sustained change in behaviour.</li> <li>5) Climate change will result in increased rainfall variability. The moisture management practices will become mandatory and as a result, yield responses (consistent high yields through effective irrigation and drainage) will ensure practices are sustained.</li> <li>6) The training strategy that aims to develop a wholistic training approach considering climate change can be used in any location</li> </ul>	
<b>Sustainability</b>	<ul style="list-style-type: none"> <li>1. There is no seed cane production and distribution system for the industry.</li> <li>2. Knowledge and Knowledge Systems are disjointed, lesson learnt, and information are not shared disseminated widely nor consistently.</li> <li>3. Limited use of digital use to inform decision making and</li> </ul>	<u>Low</u>	<ul style="list-style-type: none"> <li>1) The project will support the development of a seed cane delivery program through identified seed cane nurseries. The process will be replicated and ensure the continued supply of clean seed cane is delivered to the industry.</li> <li>2) The delivery of a training strategy and corresponding training material will provide the basis for the mind-set shift that</li> </ul>	<ul style="list-style-type: none"> <li>1) Development of seed cane production and distribution system to support continuous diversification of farms with newly identified cane varieties. Collaboration with BSI seed cane breeding programs will help ensure the resilience of the varieties being developed throughout beyond the project investment period.</li> <li>2) Industry Transformation strategy and aligned training and capacity building materials and systems will shift the paradigm of farmers and other industry</li> </ul>

	<p>guide industry transformation.</p> <p>4. There is not strategic transformation strategy for the industry.</p>		<p>is required to become more climate smart. The strategy will allow for training material to be updated with the latest best practice.</p> <p>3) The shift to CSA practices will require consistent quality services to be delivered to the famers. This (increasing) demand will ensure the sustainability of local service providers.</p> <p>4) The project will aim to capacitate digital tools that current exist, rather than to create new tools. The tool(s) will be developed in such a way that the industry will become the owners and requiring inputs and data sharing throughout the farming operational process (data sharing with financier to approve loan; field replant request through digital marketplace; digital cane delivery note from the mill weighbridge) to ensure the sustainability of the tools.</p> <p>5) The project will support industry alignment through the development of an industry forum where all industry stakeholders will participate to share and learn on best practice and overcome industry issues</p>	<p>stakeholders to one that considers the impacts of climate variability and change. The transformation of industry stakeholders will sensitize and socialize industry stakeholders to the need to the continued adoption of climate resilient practices.</p> <p>3) Key industry stakeholders, including farmers, staff of support organizations and industry service providers will be capacitated for industry use.</p> <p>4) Industry tools capacitated to support project delivery and industry operations is critical to monitor the transformation of the Sugar Industry and the continued adoption of climate resilient practices beyond the investment period of the project. The data driven platform will improve access, capacity to use, and opportunities to use data and information in decision making across the sugar industry.</p>
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**2.1. GCF Outcome level: Reduced emissions and increased resilience (IRMF core indicators 1-4, quantitative indicators)**

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GCF Result Area	IRMF Core Indicators (1-4) <sup>1</sup>	Means of Verification (MoV)	Baseline	Target		Assumptions / Note
				Mid-term	Final <sup>2</sup>	
	Core 2: Direct and indirect beneficiaries reached	<ul style="list-style-type: none"> <li>Project surveys</li> <li>Annual, Bi-annual Project Progress Reports</li> </ul>	0 persons in targeted area have been supported via GCF-funded project.	46,010 beneficiaries (Male 23,615) and Female 22,395)	92,020 beneficiaries (Male 47,230 and Female 44,790)	<p>The project will strengthen the adaptive capacity of 5,013 direct beneficiaries and 92,020 indirect beneficiaries.</p> <p>Targeted farmers and households will remain engaged throughout the project implementation.</p> <p>The project supports multi-stakeholder dialogue and awareness building to address threats climate change in planning and development.</p>
<u>ARA1 Most vulnerable people and communities</u>	Core 2: Direct and indirect beneficiaries reached			2,506 direct beneficiaries (40% female, 10% youths)	5,013 direct beneficiaries (40% female)	
				43,504 indirect beneficiaries (Male 21,877) and Female 21,636)	87,007 indirect beneficiaries (Male 43,753 and Female 43,272)	
<u>ARA1 Most vulnerable people and communities</u>	Supplementary 2.1: Beneficiaries (female/male) adopting improved and/or new climate-resilient livelihood options	<ul style="list-style-type: none"> <li>Annual, Bi-annual Project Progress Reports</li> <li>SIMIS reports</li> </ul>	0 persons in targeted areas have adopted improved climate resilient livelihood options		4,359 (40% female) persons adopting improved climate resilient livelihood options	The project delivers a set of agronomic based adaptation measures that increase the resilience of sugarcane farming systems.

<sup>1</sup> The IRMF Indicators are set out in the [Integrated Results Management Framework](#)

<sup>2</sup> The final target means the target at the end of project/programme implementation period. However, for core indicator 1 (GHG emission reduction), please also provide the target value at the end of the total lifespan period which is defined as the maximum number of years over which the impacts of the investment are expected to be effective.

					82,007 person in-directly benefiting from improved climate resilient livelihood options	The project financial instruments and structure provide transitional support for new green technologies and climate resilient investment.
	Supplementary 2.5: Beneficiaries (female/male) adopting innovations that strengthen climate change resilience	Annual, Bi-annual Project Progress Reports  SIMIS reports	0 persons in targeted areas have adopted improved climate resilient livelihood options	2,180 (40% female) persons adopting innovations that strengthen climate change resilience	4,359 (40% female) persons adopting innovations that strengthen climate change resilience	The project delivers a set of appropriate technologies that increase the resilience of sugarcane farmers and farming systems
<u>ARA4 Ecosystems and ecosystem services</u>	Core 2: Direct and indirect beneficiaries reached		0 persons in targeted areas benefit from improved climate-resilient management practice of sugarcane farmland.	327 (male 229 and female 98) persons directly benefit from improved climate-resilient management practice of sugarcane farmland.  2,500 (male 1,675 and female 825) persons in-directly benefit from improved climate-resilient management practice of sugarcane farmland	645 (male 452 and female 193) persons directly benefit from improved climate-resilient management practice of sugarcane farmland.  5,000 (male 3,350 and female 1,650) persons in-directly benefit from improved climate-resilient management practice of sugarcane farmland	

<u>ARA4 Ecosystems and ecosystem services</u>	Core 4: Hectares of natural resources brought under improved low-emission and/or climate-resilient management practice	Annual, Bi-annual Project Progress Reports  SIMIS reports  GIS Maps	0 Hectares of sugarcane farmlands supported via GCF-funded project.	2023 Hectares (5000 Acres) of sugarcane farmlands brought under improved climate-resilient management practice.	4046 Hectares (10000 Acres) of sugarcane farmlands brought under improved climate-resilient management practice.	The project delivers a set of soil and water adaptation measures and technologies that improves the management of land and water resources.

## 2.2. GCF Outcome level: Enabling environment (IRMF core indicators 5-8 as applicable)

Select at least two relevant IRMF core (enabling environment) indicators to monitor and elaborate the baseline context and project/programme's targeted outcome against the respective indicators. Rate the current state (baseline) vis-à-vis the target scenario and select the geographical scope of the outcome to be assessed. Describe how the project/programme will contribute towards the target scenario. Refer to a case example in the accompanying guidance to complete this section.

IRMF Core Indicators (5-8) <sup>3</sup>	Baseline context (Description)	Rating for current state (Baseline)	Target scenario (Description)	How the project will contribute	Coverage
Core Indicator 6: Degree to which GCF investments contribute to technology deployment, dissemination, development or transfer and innovation	The industry has two digital tools – SIMIS and in pilot form, the smart Sugar Cluster. These tools have mainly been used by the mill and to a limited degree the management of the farmers associations. There is very little penetration of technology at a farmer level	<u>low</u>	The project will aim to capacitate the existing industry tools. The project aims to allow farmers to participate in the data collection effort that will inform not only the farmers' operations but the industry.	Output 3.2.1 Smart Sugar Cluster and Sugar Industry Management Information System scaled	<u>Multiple sub-national areas within a country</u>
<u>Core indicator 7: Degree to which GCF Investments contribute to market development/transformation at the sectoral, local, or national level</u>	The sugar sector in Belize is largely located in the North. Current practices are outdated and have caused an accelerating degradation of the yields and therefore industry. Climate change has and will further exacerbate the physical and social issues that exist.	<u>low</u>	The project will aim to transform the current sugar industry. The project will aim to deliver a range of activities that will ensure farmers are able to achieve the potential of the environment and the crop. The project will also support industry alignment by the development of industry alignment forum.	1) Output 1.2.1: Seed cane rollout master plan and distribution systems for 974 acres of seed cane nurseries. 2) Output 1.3.1: 10,000 acres of land replanted to climate adapted varieties. 3) Output 3.1.1: Transformation, Training and Capacity Building Systems developed.	<u>National level (one country)</u>

<sup>3</sup> The IRMF Indicators are set out in the [Integrated Results Management Framework](#)

<p><u>Core indicator 8: Degree to which GCF investments contribute to effective knowledge generation and learning processes, and use of good practices, methodologies and standards</u></p>	<p>Existing initiatives have been delivered to increase the local knowledge of CSA practices. However, these practices are not implemented at a farmer level. The industry currently lacks the alignment and strategy to make the mind-set shift and transformation required.</p>	<p><u>medium</u></p>	<p>The project will develop a CSA training strategy and deliver training to the seed cane collaborators, farmers, and service providers</p>	<ol style="list-style-type: none"> <li>1) Activity 1.3.1.4 Train farmers on climate smart replanting methods<sup>4</sup>.</li> <li>2) Activity 1.3.1.1 Develop standards and guidelines for land preparation and planting inclusive soil management.</li> <li>3) Activity 1.4.1.4 Train cane cutters on elements of industry transformation <sup>5</sup>.</li> <li>4) Output 3.1.1: Transformation, Training and Capacity Building Systems developed.</li> </ol>	<p><u>National level (one country)</u></p>
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### 3. Project/programme specific indicators (project outcomes and outputs)

*This section should list out project/programme-specific performance indicators (outcomes and outputs) that are not covered in sections above (1-2). List down tailored indicators to monitor /track progress against relevant project/programme results (outcomes/outputs). AEs have the freedom to decide against which outcomes they would like to set project/programme specific indicators. If any co-benefits are identified in sections B.2.2, and D.3, AEs are encouraged to add and monitor co-benefit indicators under the "Project/programme co-benefit indicators" section in table below. Add rows as needed.*

*Please number each outcome and output as shown below to indicate association of outputs to the contributing outcome. The numbering for outputs under this section should correspond to the output numbering in annex 3 (budget plan that provides breakdown by type of expense ).*

Project/programme results (outcomes/ outputs)	Project/programme specific Indicator	Means of Verification (MoV)	Baseline	Target		Assumptions / Note
				Mid-term	Final	

<sup>4</sup> 2,800 (1,876 male, and 924 female) farmers trained

<sup>5</sup> 200 (180 male, and 20 female) cane cutters trained

<b>Outcome1.1: Improved crop diversity and farming practices to reduce climate risk and adaptive capacity.</b>	1.1.1: Number of farmers (men and women) who replant fields using recommended varieties.	<ul style="list-style-type: none"> <li>• Industry annual report, SIMIS reports</li> <li>• Annual, Bi-annual Project Progress Reports</li> </ul>	60% of the industry is dominated by sugarcane variety B79474	5000 acres of sugarcane fields replanted with new sugarcane variety,	10000 acres of sugarcane fields replanted with new sugarcane variety.	<ul style="list-style-type: none"> <li>• Farmers are willing to implement new practises.</li> </ul>
	1.1.2: Number of acreages of sugarcane fields replanted with new sugarcane variety.			At least 1000 farmers have replanted fields using recommended sugarcane variety.	At least 2000 farmers have replanted fields using recommended sugarcane variety.	
	1.1.3: Number of acreages replanted with sugarcane variety CP722086.			At least 2,975 acres replanted with sugarcane variety CP722086.	At least 5,950 acres replanted with sugarcane variety CP722086.	
	1.1.4: Number of acreages replanted with sugarcane variety BJ7262.			At least 575 acres replanted with sugarcane variety BJ7262.	At least 1150 acres replanted with sugarcane variety BJ7262.	
	1.1.5: Number of acreages replanted with sugarcane variety Mex69290.			At least 725 acres replanted with sugarcane variety Mex69290	At least 1,450 acres replanted with sugarcane variety Mex69290.	

	1.1.6: Number of acreages replanted with sugarcane variety BBz's.			At least 725 acres replanted with sugarcane variety BBz's	At least 1,450 acres replanted with sugarcane variety BBz's	
	1.1.7: Percentage of grant recipients who are small farmers (less than 20 acres and less than 5 acres)			At least 40% of grant recipients are small farmers	At least 80% of grant recipients are small farmers	
<b>Output 1.1.1: Variety information release protocol and data sheet for each variety created and database developed.</b>	<i>1.1.1.1 Complete technical data captured for each new variety and each variety currently growing.</i>	<ul style="list-style-type: none"> <li>• Annual, Bi-annual Project Progress Reports</li> <li>• Workshop reports</li> <li>• BSI/SIRDI report on seed cane</li> </ul>	SIRDI and BSI have infographics on seed cane varieties currently available, but 14% of varieties grown are unknown. New variety information packs also need to be developed	Data on all new and 85% of current varieties are captured.	Data on all new and 100% of current varieties are captured.	<ul style="list-style-type: none"> <li>• The data on all varieties is accessible</li> </ul>
	<i>1.1.1.2 System develop to disseminate data to farmers.</i>			Data system developed, and data captured for seed cane.	Data system developed, and data captured for seed cane.	
	<i>1.1.1.3 % of registered sugarcane farmers who indicate increased access to data on sugarcane variety.</i>			At least 30 % of registered sugarcane farmers who indicate increased access to data on sugarcane variety.	At least 60 % of registered sugarcane farmers who indicate increased access to data on sugarcane variety.	

	<i>1.1.1.4 # of farmers trained on new varieties</i>			At least 1,875 farmers trained on new varieties (40% Females)	At least 3,750 farmers trained on new varieties (40% Females)	
<b>Output 1.2.1: Seed cane rollout master plan and distribution systems for 974 acres of seed cane nurseries</b>	<i>1.2.1.1 # of acres of seed cane nursery developed.</i>	<ul style="list-style-type: none"> <li>• Annual, Bi-annual Project Progress Reports</li> <li>• Workshop and Training reports</li> </ul>	BSI internal seed cane nurseries. No seed cane distribution plan exists	487 acres seed cane nursery developed.	974 acres seed cane nursery developed.	<ul style="list-style-type: none"> <li>• The seed cane will produce at the rate of 24 tonnes per acre.</li> <li>• Seed cane is planted at 4 tonnes seed cane per acre</li> </ul>
	<i>1.2.1.2 System develop to fairly distribute seed cane.</i>			Seed cane distribution system set up.	Seed cane distribution system set up.	
	<i>1.2.1.3 # of persons to work with seed cane as seed cane nursery collaborators</i>			130 persons trained as seed cane nursery collaborators (30% youth)	260 persons trained as seed cane nursery collaborators (30% youth)	
<b>Output 1.3.1: 10,000 acres of land replanted to climate adapted varieties.</b>	<i>1.3.1.1 # of acres of land registered to be replanted.</i>	<ul style="list-style-type: none"> <li>• Annual, Bi-annual Project Progress Reports</li> <li>• Industry annual report, SIMIS reports</li> <li>• Workshop and Training reports</li> </ul>	No replanting program or standard exists	5,000 acres registered for replanting (30% Female)	10,000 acres registered for replanting (30 Female)	<ul style="list-style-type: none"> <li>• The seed cane will produce 24 tonnes per acre.</li> <li>• Seed cane is planted at 4 tonnes seed cane per acre.</li> <li>• Farmers are willing to take on risk of new varieties and are willing to change to CSA practices.</li> </ul>
	<i>.1.3.1.2 # of enterprise/service providers registered to conduct transactions using the digital marketplace.</i>			20 service providers/enterprises registered to conduct transactions using the digital marketplace.	35 service providers/enterprises registered to conduct transactions using the digital marketplace.	

	1.3.1.3 # of service providers trained to replanting according to CSA.			100 service providers trained replanting according to CSA.	200 service providers trained replanting according to CSA	<ul style="list-style-type: none"> <li>• Service providers are willing to use best practice.</li> <li>• Service providers are willing to conduct business transactions using the digital marketplace</li> </ul>
	1.3.1.4 # of acres of land replanted			5000 acres replanted (30% Female)	10,000 acres replanted (30% Female)	
<b>Output 1.4.1: 10,000 acres prepared to be mechanically harvested and 2,000 acres mechanically harvested</b>	1.4.1.1 # of acres prepared for mechanical harvesting.	<ul style="list-style-type: none"> <li>• Annual, Bi-annual Project Progress Reports</li> <li>• Industry annual report, SIMIS reports</li> <li>• Workshop and Training reports</li> </ul>	Green cane harvesting is limited to approximately 15% of the industry.	5,000 acres prepared for mechanical harvesting (30% Female)	10,000 acres prepared mechanical harvesting (30% Female)	<ul style="list-style-type: none"> <li>• Based on financial benefits of commercial farming, farmers will convert to block farming</li> <li>• Service providers will access financial support to procure mechanical harvesters</li> </ul>
	1.4.1.2 # of seed cane cutters trained			100 cane cutters capacitated	200 cane cutters capitated.	
	1.4.1.3 # of acres being mechanically harvested.			1,000 acres mechanically harvested.	2,000 acres mechanically harvested	

<b>Output 1.5.1: 10,000 acres of land with improved soil health and ratoon management.</b>	<i>1.5.1.1 # of acres of land improved soil health practices at planting.</i>	<ul style="list-style-type: none"> <li>• Annual, Bi-annual Project Progress Reports</li> <li>• Industry annual report, SIMIS reports</li> <li>• Workshop and Training reports</li> <li>• SIRD I Monthly Progress Report</li> <li>• BSI Monthly Progress Report</li> </ul>	Soil health practices are not currently implemented.	5,000 acres with soil health practices implemented at planting (30% Female)	10,000 acres with soil health practices implemented at planting (30% Female)	<ul style="list-style-type: none"> <li>• Farmers are willing to implement new practises.</li> <li>• SIRD I and BSI will support farmers with the implementation of new practices.</li> </ul>
	<i>1.5.1.2 # # of acres of land improved during ratoon.</i>			5000 acres with soil health practices implemented during ratoon (30% Female)	10000 acres with soil health practices implemented during ratoon (30% Female)	
<b>Outcome 2.1: Sustainable water and land management techniques increased for improved productivity and consistent supply chain.</b>	2.1.1: Number of Farmers (men and women) participating in the project have adopted improved soil and moister management techniques.	<ul style="list-style-type: none"> <li>• Industry annual report, SIMIS reports</li> </ul>	Sustainable water and land management techniques are implemented on an ad-hoc basis.	At least 327 farmers (men and woman participating who have adopted improved soil and moister management techniques.	At least 645 farmers (men and woman participating who have adopted improved soil and moister management techniques.	<ul style="list-style-type: none"> <li>• Farmers are willing to implement new practises.</li> </ul>

				5,000 acres of sugarcane fields adopted improved water or land management techniques	10,000 acres of sugarcane fields adopted improved water or land management techniques	
<b>Output 2.1.1: Toolkit and Guidelines for climate resilient for irrigation and drainage developed.</b>	<i>2.1.1.1 # of Toolkit and Guidelines for irrigation and drainage developed to changing precipitation (technical vulnerability assessment)</i>	<ul style="list-style-type: none"> <li>Project Criteria, and Checklist guidelines</li> <li>Annual, Bi-annual Project Progress Reports</li> <li>Workshop and Training reports</li> </ul>	Limited drainage Irrigation measures have been implemented in the industry.	Toolkit and Guidelines developed.	Toolkit and Guidelines developed.	<ul style="list-style-type: none"> <li>Toolkit and Guidelines are determined based on existing and current predictions of climatic conditions.</li> <li>Competitive market for service providers developed based on viability/acceptance of the services provided</li> </ul>
	<i>2.1.1.2 # of system to develop drainage and irrigation.</i>			<ul style="list-style-type: none"> <li>Project Steering Committee Meeting Minutes</li> </ul>	At least 1 system developed.	
<b>Output 2.2.1: 1,000 acres drainage and 2,000 acres irrigation.</b>	<i>2.2.1.1 # of acres drainage developed.</i>	<ul style="list-style-type: none"> <li>Annual, Bi-annual Project Progress Reports</li> <li>Industry annual report, SIMIS reports</li> </ul>	BSI has pilot plots with irrigation installed.  Drainage master plan has been developed but not implemented	1000 acres of drainage (30% Female)	1000 acres of drainage (30% Female)	<ul style="list-style-type: none"> <li>To avoid the impact of a major climatic event the activity will be implemented outside of the hurricane season.</li> </ul>
	<i>2.2.1.2 # of acres irrigation developed.</i>			2000 acres of irrigation (30% Female)	2000 acres of irrigation (30% Female)	

	<i>2.2.1.3 # of industry stakeholders capacitated in Water management and irrigation scheduling for irrigation</i>			At least 300 industry stakeholders capacitated in water management and irrigation scheduling for irrigation (30% female)	At least 600 industry stakeholders capacitated in water management and irrigation scheduling for irrigation (30% female)	
<b>Output 2.3.1: 10,000 acres of improved pest and residue Management measures implemented.</b>	<i>2.3.1.1 Pest and disease monitoring and mitigation protocol developed.</i>	<ul style="list-style-type: none"> <li>• Annual, Bi-annual Project Progress Reports</li> <li>• Industry annual report, SIMIS reports</li> <li>• SIRDI Monthly Progress Report</li> </ul>	Pest and disease management is done, but monitoring is not sufficient, and measure are not best practise	At least 1 Pest and disease monitoring and mitigation Protocol Developed	At least 1 Pest and disease monitoring and mitigation Protocol Developed	<ul style="list-style-type: none"> <li>• Farmers are implementing some level of pest management measure</li> </ul>
	<i>2.3.1.2 # of acres of improved pest management measures implemented</i>			5,000 acre of improved integrated pest management practises	10,000 acre of improved integrated pest management practises	
<b>Outcome 3.1: Transformative knowledge and knowledge systems that build resilience to long and near-term climate impact.</b>	<i># of persons (men and women) that benefited from the project have a increase knowledge and capacity to respond to the impacts of Climate change of sugarcane farming system</i>	<ul style="list-style-type: none"> <li>• Annual, Bi-annual Project Progress Reports</li> <li>• Industry annual report, SIMIS reports</li> <li>• Workshop and Training reports</li> <li>• Surveys</li> </ul>	No structured system for industry transformation and capacity building exists in the industry. Capacity building is conducted on a ad-hoc basis	2,500 (30% female) persons informed/ capacitated on response options to the impacts of Climate change of sugarcane farming system	5,013 (30% female) persons informed/ capacitated on response options to the impacts of Climate change of sugarcane farming system	<ul style="list-style-type: none"> <li>• Industry stakeholders are willing to learn techniques and practices to address climate related challenges in transforming the industry</li> </ul>

					At least 50% of registered sugarcane farmers say that they conduct industry transactions using the smart sugarcane cluster	At least 75% of registered sugarcane farmers say that they conduct industry transactions using the smart sugarcane cluster	
<b>Output 3.1.1: Transformation, Training and Capacity Building Systems developed.</b>	3.1.1.1 # of industry-level (local and international) knowledge sharing workshops.	<ul style="list-style-type: none"> <li>• Annual, Bi-annual Project Progress Reports</li> <li>• Industry annual report, SIMIS reports</li> <li>• Workshop and Training reports</li> </ul>	<p>No industry level forum exists.</p> <p>No system exists for continuous learning that is easily accessible</p>	10 industry level knowledge sharing events (>30% Female)	20 industry level knowledge sharing events (>30% Female)	<ul style="list-style-type: none"> <li>• Industry and political relations allow for alignment.</li> <li>• Farmers are willing to learn and change practices through a continuous learning platform</li> </ul>	
	3.1.1.2 # of industry stakeholders reached via the industry level knowledge sharing events.2.			At least 5,000 persons reached via the industry level knowledge sharing events.	At least 10,000 persons reached via the industry level knowledge sharing events.		
	3.1.1.3 # of transformation strategy developed			1 transformation strategy developed to guide the climate resilient transformation of the sugarcane industry	1 transformation strategy developed to guide the climate resilient transformation of the sugarcane		

					industry	
	<i>3.1.1.4 Platform of knowledge transfer developed. Farm radio program developed and implemented.</i>			1 farm radio show programme for farm level knowledge transfer developed	1 farm radio show programme for farm level knowledge transfer developed	
	<i>3.1.1.5 Training modules developed per focus area of the sugarcane production cycle and sugarcane value</i>			4 training modules developed per focus area of the sugarcane production cycle and sugarcane value	8 training modules developed per focus area of the sugarcane production cycle and sugarcane value	
<b>Output 3.2.1 Smart Sugar Cluster and Sugar Industry Management Information System scaled.</b>	<i>3.2.1.1 # of industry tools supported/developed</i>	<ul style="list-style-type: none"> <li>• Annual, Bi-annual Project Progress Reports</li> <li>• Industry annual report, SIMIS reports</li> <li>• Workshop and Training reports</li> </ul>	<p>SIMIS exists and provides some data to the industry.</p> <p>Limited weather data is being collected and shared among all farmers</p>	2 industry tools supported (SIMIS and SSC).	2 industry tools supported (SIMIS and SSC).	<ul style="list-style-type: none"> <li>• Farmers are willing to learn and change practices.</li> <li>• Climate data is available to predict potential risk.</li> </ul>
	<i>3.2.1.2 # of training workshops (and attendance) on how to use tools.</i>			5 Training sessions to capacitate Industry stakeholders on the use and functionality of industry tools (>40% Female)	10 Training sessions to capacitate Industry stakeholders on the use and functionality of industry tools (>40% Female)	

	3.2.1.3 # of farmers that have access to climate data for decision making purposes.			2,505 farmers have access to the climate data.	5,013 farmers have access to climate data	
	3.2.1.4 # of climate/weather data collection stations installed			5 automated weather stations installed for increased frequency and reliability of weather-related data	10 automated weather stations installed for increased frequency and reliability of weather-related data	
<b>Output 3.3.1: Farming Models that enable industry transformation and knowledge sharing developed.</b>	3.3.1.1 # of climate resilient farming models to promote industry transformation.	<ul style="list-style-type: none"> <li>• Annual, Bi-annual Project Progress Reports</li> <li>• Workshop and Training reports</li> </ul>	Current farming models are geared towards small scale farming	3 farming models to promote industry transformation.	3 farming models to promote industry transformation	<ul style="list-style-type: none"> <li>• Farmers are willing to acquire knowledge to transform their farming practices</li> </ul>
	3.3.1.2 # of training sessions on new farming models			5 training sessions on farming models (40% female)	10 training sessions on farming models (40% female)	
<b>Output 3.4.1: Farmer vulnerability criteria and assessment guidelines developed.</b>	3.4.1.1# of risk and vulnerability assessment system identified.	<ul style="list-style-type: none"> <li>• Risk and vulnerability assessment guidelines and criteria</li> <li>• Annual, Bi-annual Project Progress Reports</li> </ul>	No vulnerability criteria exist for sugarcane farmers.	1 farmer vulnerability assessment system and criteria developed.	1 farmer vulnerability assessment system and criteria developed.	<ul style="list-style-type: none"> <li>• Risk mitigation is a viable option for farmers implementing CSA.</li> <li>• Data to conduct assessment is accessible</li> </ul>

	3.4.1.2 Industry sensitization risk and vulnerability assessment system	<ul style="list-style-type: none"> <li>Workshop and Training reports</li> <li>Project Steering Committee Meeting Minutes</li> </ul>		2 sensitization sessions on risk and vulnerability assessment	2 sensitization sessions on risk and vulnerability assessment	
<ul style="list-style-type: none"> <li><b>Project/programme co-benefit indicators<sup>6</sup></b></li> </ul>						
Co-benefit 1: Improved industry Relations between farmers and the mill due to the stabilization of yields.	CO-1.3: Farmers perception of mill effectiveness.	<ul style="list-style-type: none"> <li>Annual, Bi-annual Project Progress Reports</li> <li>SIMIS reports</li> <li>Workshop and Training reports</li> </ul>	No industry transformation forum exist, and ongoing tensions exists within industry supply chains	At least 20% of registered sugarcane farmers indicate increase in mill effectiveness.	At least 40% of registered sugarcane farmers indicate increase in mill effectiveness.	<ul style="list-style-type: none"> <li>The existing cane agreement gets signed and normal operations can continue</li> </ul>
	CO-1.3: Percentage of Farmers who sat that they have increased access to climate data to inform decision making			At least 25% of registered sugarcane farmers indicate increased access to climate data to inform on-farm decision making.	At least 50% of registered sugarcane farmers indicate increased access to climate data to inform on-farm decision making.	

<sup>6</sup> The baseline for the indicators listed will be established and targets to updated after the baseline study. This will be done within the first 6 months after the date of fist disbursement.

	<p><i>CO-1.4: Percentage of Farmers (men and women) who replanted fields in accordance with the recommendation of the project achieve increase in sugarcane yield.</i></p>			<p>At least 30% of registered sugarcane farmers, who replanted fields in accordance with the recommendation of the project achieve record increased sugarcane yield.</p>	<p>At least 60% of registered sugarcane farmers, who replanted fields in accordance with the recommendation of the project achieve record increased sugarcane yield.</p>	
	<p><i>CO-1.5: Average yield (Ton cane per acre) of farmers participating in the project</i></p>			<p>A minimum of 25 ton per acre recorded for sugarcane farmers that replanted fields in accordance with the recommendation of the project</p>	<p>A minimum of 25 ton per acre recorded for sugarcane farmers that replanted fields in accordance with the recommendation of the project</p>	
<p>Co-benefit 2: Reduced Carbon Emission through improved soil management and reduction in agriculture burns</p>	<p><i>CO-2.1: Net carbon emission of industry agronomic practices</i></p>	<ul style="list-style-type: none"> <li>• Annual, Bi-annual Project Progress Reports</li> <li>• BSI CO2 analysis assessment report</li> </ul>	<p>Current practices of carbon heavy, with little climate smart agricultural practices being implemented</p>	<p>At least 100,000 tonne of CO2 emissions reduced due to the adoptions of climate smart agronomic practices of farmers who participated in the project.</p>	<p>At least 200,000 tonne of CO2 emissions reduced due to the adoptions of climate smart agronomic practices of farmers who participated in the project.</p>	<ul style="list-style-type: none"> <li>• Industry has a willingness to learn</li> </ul>

Co-benefit 3: Increased ecosystem services and benefits through improved land and water management	<i>CO-3.1: Percent change in soil health.</i>	<ul style="list-style-type: none"> <li>• Annual, Bi-annual Project Progress Reports</li> <li>•</li> </ul>	<p>Current practices are soil degenerative.</p> <p>Current irrigation practices are in efficient</p>	At least 25% increase in soil organic carbon concentration of soils of sugarcane farmers who participated in the project.	At least 25 % increase in soil organic carbon concentration of soils of sugarcane farmers who participated in the project.	Industry has a willingness to learn
	<i>CO-3.2:) Percent change in water use efficiency for irrigation.</i>			20% average reduction in water use among farmers who benefit from irrigation support under the project.	20% average reduction in water use among farmers who benefit from irrigation support under the project.	
Co-benefit 4: Increased participation of women in the sugar production values chain	<i>CO-4.1: Percentage of women farmers who say that they have access opportunities in the sugar industry.</i>	Annual, Bi-annual Project Progress Reports	<p>Gender has historically not been considered as an important factor and few women are represented in decision making positions.</p> <p>Currently no measures exist to</p>	At least 30% of registered women farmers indicate increased access to opportunities in the sugar industry.	At least 40% of registered women farmers indicate increased access to opportunities in the sugar industry.	Traditional norms can be overcome

	CO-4.2: Percent of tons of sugarcane deliver to the mill by farmers who are women.		ensure industry resources are distributed equitably along across genders	20 % increase in average sugarcane tonnage deliver to the mill by women farmers who participated in the project	20 % increase in average sugarcane tonnage deliver to the mill by women farmers who participated in the project	
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#### 4. Project/programme activities and deliverables

All project activities should be listed here with a description and sub-activities. Significant deliverables should be also reflected in the project/programme Timetable (Annex 5). Add rows as needed.

Please number the activities as shown below to indicate association of activities to the related outputs provided above in section 5. Similarly, please number sub-activities as shown below to associate to the related activity.

Output	Activities	Description	Deliverables
Please number each Output (Output 1.1, Output 1.2)	List of the project activities below.	Provide a brief description of each of the activity listed in the previous column.	
Output 1.1.1: Variety information release protocol and data sheet for each variety created and database developed.	Activity 1.1.1.1 Establish seed cane variety information database and working group.	Each variety that is assessed through the variety breeding program has to have an individual data profile that ensures all the data regarding that variety is captured for full transparency.  A technology-based system to capture the data shall be developed (or adapted from existing industry tools) to disseminate the data on each variety.  Using remotely accessible technology systems or in-person workshops/meetings, the data shall be disseminated to the farmers (Data can be available at various locations, for example, seed cane nurseries, Association offices, on mobile devices of farmers, etc.)	Detailed cane variety report Digital Database Data dissemination material
	Activity 1.1.1.2 Farmer seed cane sensitization and training.	Further sensitization and training on varietal research to provide benefits of	Training material

		new varieties. This training will be critical in the adoption of new varieties across the industry	Training report
Output 1.2.1: Seed cane rollout master plan and distribution systems for 974 acres of seed cane nurseries.	Activity 1.2.1.1 Establish and implement seed cane nursery sites, production protocols and distribution system.	Primary seed cane nurseries are identified based on location and climatic conditions. Secondary seed cane nurseries are identified either adjacent to the primary nurseries or to farmers' land.  Seed cane-to-farmer allocation system developed to identify which farmer will receive which varieties and when they will receive it.	Nursery locations  Seed cane rollout master plan report
	Activity 1.2.1.2 Training of seed cane nursery collaborators.	Specialised training for any seed cane nursery collaborators on how to manage, treat and harvest the seed cane correctly	Training material Training report
	Activity 1.2.1.3 Plant seed cane nurseries.	Once seed cane nursery locations and champions are identified and trained, service providers are identified and seed cane nurseries are developed. This process will be guided by the project procurement plan	974 acres of seed cane nurseries
Output 1.3.1: 10,000 acres of land replanted to climate adapted varieties.	Activity 1.3.1.1 Develop standards and guidelines for land preparation and planting inclusive soil management .	An industry wide standard for land preparation and replanting will contain specific details on soil inputs, spacing, depths and any technical detail pertaining to the planting activity to which the service providers will have to adhere. Standard and protocol will ensure service providers operate within the boundaries of what is expected.	CSA land prep and planting standard - report
	Activity 1.3.1.2 Identify and train suitable service providers	Local entrepreneurs and members of the farming associations are invited to become service providers.  Identified service providers are trained according to the standards and protocol as defined by the industry	Training material Training report

		<p>wide standard for land preparation and replanting.</p> <p>Once training has been completed, the service providers will be eligible to provide their services to farmers.</p>	
	Activity 1.3.1.3 Establish digital marketplace for service providers to replant fields.	<p>Farmers wanting to do land preparation or replanting are registered and informed of the new standards in terms of its benefits.</p> <p>Farmers who are willing to adopt new standard of land preparation or replanting, are registered and connected to local service providers.</p>	<p>Integration of digital marketplace on or alongside existing tools.</p> <p>List of registered farmers</p>
	Activity 1.3.1.4 Train farmers on climate smart replanting methods.	<p>Part of the paradigm shift include to increase the use of climate smart agricultural practices. These practices first get implemented at land prep and planting and then continues to be implemented over the lifetime of the crop through ratoon management practices.</p> <p>Training on these best practices will ensure the farmers are informed.</p>	<p>Training material</p> <p>Training report</p>
	Activity 1.3.1.5 Replant sugarcane fields based on a set predefined criterion.	<p>In order to provide support to the farmers that are most vulnerable, a vulnerability assessment is carried out in activity 3.6.1 to provide a technical assessment of what farmers/fields have the poorest soils, cane and growing conditions, but also looking at social and economic vulnerability.</p> <p>The list of farmers, considering both the technical and economical (social and financial assessment done in Activity 3.6.1) assessments are replanted using the project's procurement process.</p>	10000 acres replanted
	Activity 1.4.1.1 Ensure fields are suitably prepared for mechanical	Farmers are informed of the benefits of commercial farming. Having	10,000 acres of land prepared for mechanical harvesting.

Output 1.4.1: 10,000 acres prepared to be mechanically harvested and 2,000 acres mechanically harvested.	harvesting.	replanted as block farms, mechanical (Green Cane) harvesting becomes viable since the fields are correctly spaced and are planted as block farms.  Farmers will conduct rock clearing and row spacing of 1.8m to ensure mechanical harvesters are able to carry out their functions.	
	Activity 1.4.1.2 Identify clusters of fields for viable mechanical harvesting.	Farmers who have successfully replanted as block farms are registered for mechanical harvesting.	GIS map and corresponding report
	Activity 1.4.1.3 Upscale green Harvesting Programme and associated delivery parameters.	With fields suitably prepared for mechanical harvesting, harvesters will be able to harvest cane	2000 acres of sugar cane mechanically green cane harvested
	Activity 1.4.1.4 Train cane cutters on elements of industry transformation	The project will provide livelihood training opportunities as a social co-benefit to cane cutters. This is solely based on the recognition that cane cutters' work is seasonal. Therefore, their underemployment and low wage earnings contribute to them being among the lower income earning bracket in the industry.	Training material Training report Training sessions
Output 1.5.1: 10,000 acres of land with improved soil health and ratoon management.			
	Activity 1.5.1.1 Develop and implement soil management protocols for different residue and moisture regimes.	Protocols to sample and monitor the quality of soil will be developed by leveraging on existing industry knowledge and systems, such as soil testing labs. The protocol will provide guide implementation of soil management techniques that will ensure high quality soils are maintained.	10,000 acres improved soil health through effective microbials at replanting  10,000 acres of continuous improvement of soil health during ratoon maintenance
Output 2.1.1: Toolkit and Guidelines for climate resilient for irrigation and drainage developed.	Activity 2.1.1.1 Develop criteria for irrigation and drainage to identify most vulnerable farmers and/or farms where conditions make	Selection of most vulnerable farmers are made according to a criterion. The vulnerability criteria will account for multiple factors, developed through	Criteria, GIS map and report showing ideal irrigation and drainage areas

	implementation viable.	consultation with the farmers, such as the soil conditions or no access to finance.	
	Activity 2.1.1.2 Develop system to allow service providers to develop drainage and irrigation.	Local entrepreneurs are invited to become service providers. Identified service providers' practices are vetted against the best climate smart agricultural practices.  Selected service provider(s) is approved and allowed to connect with the list of the most vulnerable farmer(s). Service provider selection is based on bidding process.	Roster of Service provider created Service provider selection process developed - report. All eligible service providers uploaded to digital marketplace.
Output 2.2.1: 1,000 acres drainage and 2,000 acres irrigation implemented.	Activity 2.2.1.1: Implement drainage and irrigation infrastructure for 3,000 acres.	Winning bid service provider(s) will design and construct drainage and irrigation on selected farms. The development process will be monitored, verified and checked via a technology-based solution.	Irrigation and drainage detailed design report(s) 2000 acres of irrigation 1000 acres of drainage
	Activity 2.2.1.2 Water management and irrigation scheduling training..	Training on water management and irrigation should be provided to the farmers identified for irrigation and drainage interventions.	Training material Training report Training sessions
Output 2.3.1: 10,000 acres of improved pest, soil and residue Management measures implemented.	Activity 2.3.1.1 Develop pest management protocols for different residue and moisture regimes .	Protocols to monitor fields for pests and diseases will be developed and implemented to effectively monitor and manage pests and diseases.	10,000 acres of integrated pest management implemented. Report on IMP process
Output 3.1.1: Transformation, Training and Capacity Building Systems developed. tran	Activity 3.1.1.1 Conduct transformational forum to sensitize farmers on transformation strategy.	Industry wide workshops and forums to be held to discuss current affairs within the industry and sector.  Industry-level agreement of driving towards transformation of the industry to more climate smart practices. The specifics of this agreement will outline specific targets (aligned with timelines) that the industry hopes to	Transformational forum conducted to inform the development of the transformation strategy. Workshop report(s)

		achieve	
	Activity 3.1.1.2 Develop Climate Resilient Transformation Strategy and conduct gender sensitive climate-smart agriculture training program	<p>Industry wide workshops and forums to be held to capacitate stakeholders on the agreed elements of industry transformation within the industry and sector focused on CSA adaptation activities.</p> <p>Training provided to industry based on workshop learnings.</p>	<p>System developed to introduce continuous learning.</p> <p>Climate Resilient Transformation Strategy developed and implemented.</p>
	Activity 3.1.1.3 Develop and implement wholistic and gender responsive training strategy and training material to build climate resilience	<p>Training strategy to be developed alongside systems that will enable the industry to have continuous learning to build and maintain resilience.</p>	<p>Industry wholistic training strategy and training manual</p> <p>Farm radio program developed and implemented.</p>
Output 3.2.1 Smart Sugar Cluster and Sugar Industry Management Information System scaled	Activity 3.2.1.1 Upscale the Sugar Industry Management Information System (SIMIS)	<p>Industry tools, assessed for compatibility to distribute specific data (weather or on-farm data).</p> <p>Data sources (existing data channels, open-source data and possibly remote sensing) are identified to provide industry and farmers with the necessary information to make informed decisions.</p>	<p>Smart sugar cluster and SIMIS scale and implemented Digital tool integrated use report.</p> <p>Training manual</p> <p>Training report</p> <p>10 automated weather stations implemented.</p>
	Sub Activity 3.2.1.1.1: Capacitate Industry stakeholders on the use and functionality of the Smart Sugar Cluster and Sugar Industry Management Information System	<p>Data required is integrated into a data sharing platform (integrated into an existing tool), accessible to all farmers.</p> <p>Farmers are trained to use the platform and understand the data it provides.</p>	
	Activity 3.2.1.2 Upscale and operationalize the Smart Sugar Cluster	<p>Integrate the blockchain technology into the data capturing and knowledge systems for full traceability and verification purposes. Upscaling support will also include advancing the operationalizing of the SSC throughout the industry. This will result</p>	<p>Industry tool alignment</p> <p>Industry data tool(s) in-depth review report</p>

		in increased transparency and traceability to all the activities that the sugar cane has along the value chain. It will be contained in a Blockchain-based platform that will improve the management, increase productivity and financial inclusion, by having a more efficient, traceable, and secure ecosystem.	
Output 3.3.1: Climate resilient farming Models that enable industry transformation and knowledge sharing developed.	Activity 3.3.1.1 Develop and implement climate resilient farming models to promote industry transformation.	Benefits of commercial farming and crop diversification is discussed with the farmers through a series of workshops.  Farmers interested in transforming are registered to be connected with the relevant service providers(s).  Annual knowledge sharing events are facilitated by industry to share commercial farming experiences (challenges and successes).	Farmer models report
	Activity 3.3.1.2: Conduct training on farming models	Having established the different viable farming models, workshops and training will be carried out to inform the farmers and to provide a platform for farmers to organize themselves according to their selected farming model.	Training material on identified farmer models.  Training report(s) on farmer model(s)
Output 3.4.1: Farmer vulnerability criteria and assessment guidelines	Activity 3.4.1.1 Develop gender inclusive farmer economic and social vulnerability criteria and assessment guidelines and requisite training and socialization plans.	An overall vulnerability criterion will be developed to ensure the project is impacting the most vulnerable. This vulnerability criteria will be applied alongside the various technical criteria for the individual activities and will include environmentally no-go areas.	Criteria report (including methodology to determine criteria)

**5. Monitoring, reporting and evaluation arrangements (max. 300 words)**

As the AE, the CCCCC will provide overall management for the project and facilitate information sharing and marketing via its online portal. Its role as an AE also includes having overall responsibility and oversight for the project, which involves project implementation and supervision, financial management, and project

monitoring and reporting.. Further, for better project coordination, and taking a programmatic approach, the CCCCC has established the Programme Development and Management Unit (PDMU). The PDMU is comprised of a Project Manager, a National Project Coordinator, Transformational Officers, Land and Water Officer, Gender Officer, Liaison Officer, GIS Officer, a Procurement Officer, a Finance Officer and Admin Officers and will draw upon the other collective expertise within the Centre to carry out the Project Implementation function. All activities will be scrutinized alongside the Centre's approved Environmental and Social Safeguard (ESS), Gender, Stakeholders' Consultation and Anti-Money Laundering and Countering Financing for Terrorism (AML/CFT) Policies to ensure they are in consonance with the objectives of those Policies. Furthermore, gender and no-discriminatory considerations and strict adherence to financial best practices will be pursued.

#### CCCCC-GCF Reporting Arrangements

CCCCC reporting to the GCF fund will be guided by GCF Monitoring and Accountability Framework for Accredited Entities, its Accreditation Master Agreement and terms to be agreed in the funding agreement. Aligned with GCF's Monitoring and Accountability Framework for Accredited Entities, CCCCC will develop and implement an M&E plan for continuous monitoring of the project. An M&E officer will have responsibility the implementation of the plan will. Further the plan will be monitored via site visits and quarterly reports, which will be fed into semi-annual performance reports and an annual performance report.

The Annual Performance Reports (APRs) will include the financial management reports and progress reports on all activities. It will identify potential risk to project activities and remedial action(s). These reports will also evaluate the activities against the targets set out in the logical framework, which are in accordance with the GCF investment framework criteria. CCCCC monitoring and reporting will consider feedback from direct beneficiaries: communities, farmers, businesses, and government agencies. This approach allows for a bi-directional flow of information that is not only important for monitoring their satisfaction with the products and allowing them to continually feedback on design elements but also to ensure that buy-in and ownership for relevant products and services are being built at the national level for sustainability, replicability, and scalability purposes.

At the mid-term of the project the formative evaluation report will be submitted to the GCF for review. There will also be a final report at the end of the period of implementation, which will provide a holistic view of the achievements of the project, impact, effectiveness, and efficiency (financial and economic), financial records, stakeholder feedback and lessons learnt. This report will also be accompanied by the final project financial audit to be completed by an independent and accredited auditor. All records on this project will be kept for at least five years for review by the GCF or its authorized bodies after project completion. The CCCCC will submit in English the final project report, including the final evaluation report, to the GCF within 6 months of the completion of the project.

#### Monitoring and Evaluation Plan

The CCCCC will monitor and report on intended project benefits to beneficiaries. The project is design to build the adaptive capacity of smallholder sugarcane farmers and as such assumes that certain stimuli and inputs will achieve certain outputs, effects, and impact. The CCCCC Project Management Team inclusive of a Monitoring and Evaluation Officer, will create the conditions that will allow this chain of events to occur. Emphasis will be on monitoring the agronomic progress and the delivery of the inputs to the intended recipients. Further, information on recipients' attitudes and perceptions is important to explain any shift in attitudes and behaviour to that assumed in the project design. Data collection will be objective as possible, and ensure that the means exist for fast collation, summarization, and presentation of the information. The data outlined in the table below will be collected to monitored throughout the implementation of the project.

<b>M&amp;E Objective</b>	<b>Indicators <sup>7</sup></b>	<b>Information to be collected</b>	<b>Methods/tools for collecting information</b>	<b>Estimated Budget (USD)</b>
Establish baseline and monitor farmers' access to data on sugarcane varieties and perception of mill effectiveness	<ul style="list-style-type: none"> <li>Percent of registered sugarcane farmers who indicate increased access to data on sugarcane variety.</li> <li>Farmers perception of mill effectiveness.</li> </ul>	<ul style="list-style-type: none"> <li>Qualitative and Quantitative data sets, disaggregate by gender, on farmers perception on their access to data on sugarcane varieties and perception of mill effectiveness</li> </ul>	<ul style="list-style-type: none"> <li>Surveys,</li> <li>Face to face interviews</li> <li>Focus groups.</li> <li>Inferential/descriptive statistics</li> </ul>	\$ 25,000
Establish baseline and monitor change in soil health across the northern Sugar belt	<ul style="list-style-type: none"> <li>Number of acres of land improved soil health practices at planting.</li> <li>Percent change in soil health</li> </ul>	<ul style="list-style-type: none"> <li>Soil Organic Carbon Concentration</li> <li>Soil Carbon Mineralization</li> <li>Soil Aggregate Stability</li> </ul>	<ul style="list-style-type: none"> <li>Soil sample collection and analysis.</li> </ul>	\$ 73,000
Establish baseline and monitor water use efficiency among farmers who benefits for irrigation support under the project	<ul style="list-style-type: none"> <li>Percent change in water use efficiency for irrigation.</li> </ul>	<ul style="list-style-type: none"> <li>Data on Water use/consumption</li> </ul>	<ul style="list-style-type: none"> <li>Water consumption volume assessment</li> </ul>	\$ 20,000
Establish baseline and monitor change in Carbon Emissions as result of project implementation	<ul style="list-style-type: none"> <li>Net carbon emission of industry agronomic practices</li> </ul>	<ul style="list-style-type: none"> <li>Carbon Emissions related to Sugarcane production</li> </ul>	<ul style="list-style-type: none"> <li>Carbon sequestration and emission calculation</li> </ul>	\$ 35,000

<sup>7</sup> The baseline for the indicators listed will be established and targets to updated after the baseline study. This will be done within the first 6 months after the date of fist disbursement.

Establish baseline and monitor farmers (i.e., women and youth) who participate in the project access to opportunities, yields, and tonnage delivered	<ul style="list-style-type: none"> <li>Percentage of women farmers who say that they have access opportunities in the sugar industry.</li> <li>Percent of tons of sugarcane deliver to the mill by farmers who are women.</li> </ul>	<ul style="list-style-type: none"> <li>Qualitative and Quantitative data sets, on farmers perception on women farmers access, opportunities, yields, and tonnage delivered</li> </ul>	<ul style="list-style-type: none"> <li>Surveys,</li> <li>Face to face interviews</li> <li>Focus groups.</li> <li>Inferential/descriptive statistics</li> </ul>	\$ 20,000
Monitor and Report on all project related indicators and target			Monitoring and Evaluation officer	\$180,000 @ \$36,000/year for 5 years.
<b>Total</b>				<b>\$352,500</b>

#### NDA

The NDA has and continue to support the development of this project and is committed to see this project approved and implemented in Belize. The NDA committed to ensure continued political buy-in and support at the highest levels of government and will function as the GCF's contact person in country. The NDA will provide in-kind support, to assist with the implementation of the project activities under the project, in particular those activities that require coordination among line ministries and engagement with the GCF on reporting and verification.

Monitoring and Evaluation will become the responsibility of the Project Management Unit. Using its resources both as a project management resource to identify in-field experts or farmers to collect data and for report in-house itself. The Fund level reporting will be completed with assistance from industry stakeholders to ensure accurate data is produced and delivered to the GCF. Project level data will be collected through in-field data collection, the due diligence done by financial institutions, the data uploaded to the new digital systems and from additional stakeholder engagements.

All evaluations will be completed against the indicators set per activity, output, outcome, and impact. Evaluations will be assessed by the PMU and presented to the steering committee the mid-term and final target dates.

Data/Source	Collection Tool	Frequency	Indicator	Total Indicative Budget USD
<b>GCF Impact level: Paradigm shift potential</b>				
Project progress reports, annual monitoring reports, reports of interviews with stakeholders, communications products (press releases, case studies etc.)	Key informant interviews, focus groups, Document review	End-of-term	Scale - 3-point score card (GCF to provide)	0.00 – to be done by independent evaluator at final evaluation

	Project progress reports, annual monitoring reports, reports of interviews with stakeholders, communications products (press releases, case studies etc.)	Key informant interviews, focus groups, Document review	End-of-term	Replicability - 3-point score card (GCF to provide)	0.00 – to be done by independent evaluator at final evaluation	
	Project progress reports, annual monitoring reports, reports of interviews with stakeholders, communications products (press releases, case studies etc.)	Key informant interviews, focus groups, Document review	End-of-term	Sustainability - 3-point score card (GCF to provide)	0.00 – to be done by independent evaluator at final evaluation	