CASA

Commercial Agriculture for Smallholders and Agribusiness

Adapting Agriculture Programmes to Address Climate Change: A Case Study from the CASA Programme

Shaila Mahmud, Jack Covey and Raphaël Hébert

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Commercial Agriculture for Smallholders and Agribusiness

The Commercial Agriculture for Smallholders and Agribusiness (CASA) Programme aims to drive global investment for inclusive climate-resilient agri-food systems that increase the income of smallholder farmers.

Comments and discussion items related to the content and opinion should be addressed to the co-author Jack Covey via email at JCOV@NIRAS.COM.

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ACRONYMS

ASAP	Adaptation for Smallholder Agriculture Programme
CASA	Commercial Agriculture for Smallholders and Agribusiness
CCE	Climate Change and Environment
DFID	Department for International Development
EbA	Ecosystem-based Adaptation
ESG	Environmental, Social and Governance
FCDO	Foreign, Commonwealth & Development Office
GESI	Gender, Equity and Social Inclusion
ICF	International Climate Finance
KPI	Key Performance Indicator
LDC	Least Developed Countries
LIFE-AR	LDC Initiative for Effective Adaptation and Resilience
MEL	Monitoring, Evaluation and Learning
NAP	National Adaptation Plan
NDC	Nationally Determined Contribution
ODA	Official Development Assistance
SECAP	Social, Environmental and Climate Assessment Procedures
TA	Technical Assistance
TAF	Technical Assistance Facility
ToC	Theory of Change
WEAI	Women's Empowerment in Agriculture Index

EXECUTIVE SUMMARY

Climate change and environmental degradation pose significant threats to the future of food and agriculture, with consequences for productivity and yields, food system sustainability, food security and resource scarcity (e.g., land and water). Smallholder farmers in developing economies are amongst the most vulnerable to the impacts of climate change, and at increasing risk to loss of life, livelihoods, incomes, and rising competition over resources and related disputes and conflict.

It is increasingly necessary that the adaptive capacity and climate resilience of food and agriculture, including that of smallholders and agribusinesses, be addressed through development programmes. This is further reflected in the recent ICAI recommendations that the UK government ensures all agriculture programmes and investments have an integral focus on climate change and the environment.[1]

In operation since 2019, FCDO's Commercial Agriculture for Smallholders and Agribusiness (CASA) Programme became 100% funded through UK International Climate Finance (ICF) in 2022. With 100% ICF funding, climate has become a core programme goal, necessitating a fundamental change to the way CASA operates and functions to deliver central climate objectives and deliverables. This report reviews the process that CASA has undertaken to refocus on mainstreaming and delivering climate objectives. The report assesses progress to date, including more recent actions taken to improve the programme's climate focus across programme design, implementation and monitoring. The report presents evidence-based recommendations for policy and programme professionals, including FCDO and other donor and practitioner audiences, to support an integral focus on climate change in all existing and new agricultural development programmes and investments.

Prior to being 100% ICF funded, CASA undertook several climate-related programming initiatives, including the production of research and evidence papers and the development of project design tools to encourage the consideration of climate change opportunities and challenges when designing interventions with SME agribusinesses. Whilst it is positive that these activities took place, they often lacked rigour as climate was not a priority during CASA intervention design. Instead, they focussed on key logframe targets to increase smallholder income and other crosscutting issues such as food and nutrition security.[2] Whilst the report documents several instances of CASA engaging in climate resilience, adaptation and some mitigation activities,

With the support from CASA, GeoKrishi is now downloaded by more than 120k smallholder farmers across Nepal to get timely information on crop suitability, nursery management, fertilizer calculations and other advisory services to boost productivity and improve quality of produce.

1. ICAI (2023) UK Aid to Agriculture in a Time of Climate Change: A review. ICAI
2. A focus on food and nutrition security was an elevated policy priority due to the global food crisis following Russia's invasion of Ukraine.

these were often ad-hoc rather than strategic. Consequently, it is possible that opportunities were missed and that maladaptation may have occurred (though no instances were identified in the review process).

The limitations of CASA's pre-2023 climate work, highlighted by FCDO in the 2022 and 2023 Annual Reviews, have informed a sweeping response across the programme. Significant changes have been made to strengthen CASA's approach to climate, making it more coordinated and consistent going forward. These include the development of climate audits and climate strategies for different programme components, the improvement of climate diagnostic tools, and updates to the programme logframe so as to deliver on climate-related impact, outcome and output indicators, informed by the ICF KPIs. These adjustments, the efficacy of which is analysed in this report, represent a significant step-change in how CASA addresses climate change and should facilitate improvements in CASA's ability to design, deliver and monitor interventions that promote climate adaptation, resilience and, where possible, mitigation for smallholders and agribusinesses.

CASA supported SK Dairy (Nepal) to conduct an energy audit at its factory in Nepalgunj. The adoption of energy saving measures by the dairy led to a 31% decrease in electrical energy consumption, a 24% reduction in the monthly electricity bill, and a 37% decrease in greenhouse gas emissions.

Based on the assessment of CASA's climate trajectory, the report identifies seven areas of recommendations for how CASA can further consolidate its work to date (Table 9). These areas, which are likely applicable to other agricultural programmes, are logframe and reporting integration, climate-sensitive agribusiness selection, climate-related capacity assessments, climate finance streamlining and reporting, adaptation technology adoption, external stakeholder engagement, and climate policy advocacy and communication.

This report also makes five main recommendations for FCDO, development practitioners and other stakeholders working in agricultural programmes, to strengthen the delivery of climate action:

- Programmes should have specific targets and KPIs to deliver on climate as they mandate the allocation of resources, and thus action, as well as meaningful data collection for learning and evidence.
- Programmes should embed climate risk assessments into decision-making processes to systematically identify and mitigate climate-related risks and enhance resilience of their agribusiness investments.
- Programmes should assign resources to engage in-country climate experts for inputs to intervention design and evaluation, as they are invaluable repositories of specialised knowledge and resources, which can maximise climate opportunities and minimise risks.
- Programmes should engage in strategic planning and investment with a view to long-term sustainability to empower smallholders and agribusinesses to navigate climate challenges.
- In parallel to streamlining logframe and reporting mechanisms, programmes should align their climate-related targets and indicators to the national climate change commitments laid out in the Nationally Determined Contributions (NDCs), National Adaptation Plans (NAPs) and local climate-development nexus policies on agriculture for target countries.

INTRODUCTION

Climate change and environmental degradation pose significant threats to the future of food and agriculture, with consequences for productivity and yields, food system sustainability, food security and resource scarcity (e.g., land and water). Smallholder farmers in developing economies are amongst the most vulnerable to the impacts of climate change, and at increasing risk to loss of life, livelihoods, incomes, and rising competition over resources and related disputes and conflict. In response to these threats, it is imperative that the resilience and adaptive capacity of both smallholders and agribusinesses be addressed. At the same time, the agri-food sector represents 31% of global anthropogenic greenhouse gas emissions.[3] Land use change for agricultural expansion and agricultural waste (e.g., land, air and water pollution) are major drivers of environmental degradation, including from forest and biodiversity loss.[4] It is therefore important that mitigation opportunities are explored and promoted, to reduce emissions where possible, and minimise the negative environmental impacts, such as on habitats, biodiversity, water and soil health. Considering the interconnected nature of agriculture and climate change, the UK government accepted ICAI's recommendation to ensure that all agriculture programmes and investments have an integral focus on climate change and the environment.[5]

This report focuses on the FCDO's Commercial Agriculture for Smallholders and Agribusiness (CASA) Programme. Implemented through three components (Table 1), CASA supports small and medium-sized (SME) agribusinesses with smallholder supply chains to grow and attract investment for high development impact. CASA aims to build inclusive, climate-resilient agri-food systems, increase smallholder farmer incomes, strengthen smallholder and agribusiness adaptation and resilience to climate change, and improve smallholder food and nutrition security. Additionally, where possible, CASA targets climate mitigation, working with smallholders and agribusinesses to reduce their climate impacts. The CASA crosscutting priorities are climate change and the environment (CCE), gender equality and social inclusion (GESI), and food and nutrition security (FNS).

Table 1: CASA Components, Their Purpose and Countries

Component (implementing organisations)	Purpose	Countries
Component A (NIRAS and Swisscontact)	Demonstrating innovative interventions in target countries with partner agribusinesses with smallholder supply chains. The aim of these interventions is to mobilise investments for partner agribusinesses, and to improve the income, food and nutrition security and climate resilience of smallholders.	Ethiopia, Malawi, Nepal and Rwanda, and formerly Uganda
Technical Assistance Facility (TAF) (TechnoServe)	Working alongside investors to deploy inclusive technical assistance that strengthens upstream and downstream supply chains of partner SMEs, promoting returns, development impact and resilience.	Global
Component C (NIRAS)	Learning and knowledge-sharing component for upscaling and replication of CASA activities, collating evidence and drawing learnings from across CASA Component A and CASA TAF.	Global

3. Tubiello et al. (2022) Pre- and post-production processes increasingly dominate greenhouse gas emissions from agri-food systems, *Earth System Science Data 14*(4).
4. Brondizio, E. S., Settele, J., Díaz, S. and Ngo H. T. (eds) (2019) Global Assessment Report on Biodiversity and Ecosystem Services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. IPBES Secretariat, Bonn, Germany. https://doi.org/10.5281/zenodo.3831673
5. icai.independent.gov.uk/wp-content/uploads/UK-aid-to-agriculture-in-a-time-of-climate-change_ICAI-review.pdf

In recent Annual Reviews (2021/22 and 2022/23),[6] FCDO commented on CASA's lack of attention to climate objectives. Whilst climate has always been a crosscutting issue for the programme, it has become a higher programme-level priority following 100% International Climate Finance (ICF) funding in 2022. In response to earlier criticisms, this report seeks to document and analyse how CASA Component A[7] and CASA Technical Assistance Facility (TAF)[8] contribute to smallholder climate adaptation, resilience, and (where possible) mitigation of smallholder and agribusiness contributions to climate change. The report assesses how work can be strengthened, accurately monitored and reported in the final years of the programme. The report is structured into five chapters.

Chapter One introduces and defines key climate concepts in the context of CASA. Chapter Two assesses the evolution of how Components A and CASA TAF have addressed climate change in intervention design and implementation, where possible providing evidence on the impacts this has generated, as expressed through the recently conducted climate audits of Component A's work in Nepal and Malawi. Chapter Three looks forward, evaluating the agribusiness and climate strategies developed in all four Component A countries in 2023, as well as the climate approach of CASA TAF, and how they intend to improve CASA's work and impact on climate in both pre- and post-intervention analyses in the remaining years of the programme. Chapter Four provides a critical analysis of CASA's monitoring, evaluation and learning (MEL) practices as they relate to climate change. Finally, Chapter Five provides recommendations for advancing smallholder and agribusiness adaptation, resilience and mitigation where possible, across all CASA interventions. The recommendations are directed towards several constituents from CASA and wider fields, including other donor agencies and other development projects pivoting towards climate change.

There are four limitations to the report's analysis which must be noted. Firstly, as the initial CASA logframe lacked any climate indicators, there was no requirement to gather appropriate data on climate impact. Consequently, there are limited baseline and continuous data with which to provide detailed quantitative appraisal of the effects of CASA interventions on the climate resilience, adaptation and mitigation of agribusinesses and smallholders. The report therefore draws on qualitative assessments, informed from contextual understanding (gathered from country teams) and sectoral expertise to assess how interventions may have created climate impacts and consequently how they could have been improved. Secondly, there were two major global crises during the first years of the programme (COVID-19 and the Russian invasion of Ukraine), which meant interventions were focused on addressing related food security challenges and providing crisis response. Although the overall momentum and progress on climate interventions were temporarily slowed due to the demanding circumstances brought about by these crises, CASA TAF's Climate Smart Agriculture training initiative with Kentaste was positioned as a crisis response, strategically aimed at tackling the dual crises posed by both the ongoing COVID-19 pandemic and the impacts of climate change. Thirdly, FCDO budgetary restrictions during years two, three and four (2020-2023) led to the removal of programme-level crosscutting experts (including for climate), which reduced the expertise available for the CASA country teams to draw on. Finally, as the most significant changes in CASA processes and work on climate change have occurred since mid-2023, it must be recognised that there will be challenges in demonstrating transformative results on adaption, resilience, or mitigation in the programme's lifetime.

6. iati.fcdo.gov.uk/iati_documents/D0001230.odt; iati.fcdo.gov.uk/iati_documents/D0003522.odt
7. Component A is CASA's market systems development component delivered by NIRAS and Swisscontact.
8. CASA TAF, or Component B, is the technical assistance component of CASA delivered by TechnoServe.

1. ESTABLISHING KEY CLIMATE CONCEPTS

The FCDO Guidance Note on Application of International Climate Finance to Food and Agriculture Programmes stresses that programmes must 'embed and clarify relevant terms (e.g., on 'climate resilience') within programme logic'. This alludes to two key points addressed in this chapter. Firstly, it is important to define key terms to ensure alignment of stakeholder understanding on what, for example, climate resilience means and how it can be pursued through programming. Secondly, the Guidance Note highlights the importance of retaining a degree of flexibility in how key terms are defined to fit the context in which they are being applied. This is pertinent both across programmes and within them; for example, CASA has to retain some flexibility to accommodate the various contextual factors that affect what climate resilience means across its implementing countries and value chains. Despite the need for flexibility, this section outlines the defining elements of the key climate concepts being pursued by CASA, namely, adaptation, resilience and mitigation.

Adaptation:

CASA and this report follow the Intergovernmental Panel on Climate Change's definition of climate adaptation as 'the process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities'.[9] This definition, which is internationally accepted, is broad enough to allow sufficient flexibility to cover the range of adaptive measures which may be applicable to the various country and value chain contexts in which CASA works. In agricultural contexts, adaptation is essential as it provides smallholders and agribusinesses with increased capacity to adjust various aspects of their livelihoods and business models/practices to moderate or avoid the harm which may result from current or future climatic changes.

Resilience:

Climate resilience overlaps with adaptation; however, there are important differences that necessitate that the two are not conflated. Whilst there are many definitions and frameworks for resilience across sectors, CASA follows ICF methodology guidance[10] in using the '3 A's' framework[11] to define climate resilience, which conceptualises resilience across three different dimensions: adaptive capacity, anticipatory capacity and absorptive capacity. The definitions of the three capacities as given in the ICF KPI 4 Methodology Note[12] are:

Adaptive Capacity is the ability of social systems to adapt to multiple, long-term and future climate change risks, and also to learn and adjust after a disaster. It is the capacity to take deliberate and planned decisions to achieve a desired state even when conditions have changed or are about to change. An example is farmers diversifying the crops they grow in order to reduce vulnerability to specific kinds of bad weather or pests.

Anticipatory Capacity is the ability of social systems to anticipate and reduce the impact of climate variability and extremes through preparedness and planning. An example would be providing smallholders with improved climate information to allow planning for annual variability.

Absorptive Capacity is the ability of social systems to absorb and cope with the impacts of climate variability and extremes, it is concerned principally

9. Mach, K. J., Planton, S. and von Stechow, C. (eds) (2014) Annex II: Glossary. In *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. IPCC.
10. UK Government (2024) ICF KPI 4 Methodology Note.
11. Bahadur, A., Peters, K., Wilkinson, E., Pichon, F., Gray, K. and Tanner, T. (2015) The 3As: Tracking resilience across BRACED. Working PaperBRACED Knowledge Manager.cdn.odi.org/media/documents/9812.pdf
12. UK Government (2024) assets.publishing.service.gov.uk/media/65e0b94f3f6945001d03602e/KPI-4-number-people-resilience-improved1.pdf

with functional persistence, that is, the ability of a system to bear and endure the impacts of climate extremes. Examples are the ability of communities to access and deploy tangible assets such as savings and intangible assets like social networks to help them survive intensive shocks and maintain levels of wellbeing.

Climate resilience is essential in agricultural contexts as it is fundamental to reducing the vulnerability of smallholders and agribusiness to climate change and limiting the impacts on lives, livelihoods and food security. When pursuing climate resilience in agricultural programmes, context sensitivity is crucial in both defining what resilience looks like and therefore how it should be pursued through programming. This is because climate resilience can only be understood in relation to the context in which it is experienced. For CASA, this means resilience will differ across countries, value chains, intervention partners and smallholders. Whilst resources are often lacking to explore what resilience means for individual smallholders, programmes must be aware of the relational nature of resilience and factor this into programming wherever possible through detailed assessments at programme and intervention design phases.

Mitigation:

Mitigation is perhaps the easiest of the terms to define in the context of agricultural programmes. Mitigation covers any activities that either reduce greenhouse gas emissions or remove greenhouse gases from the atmosphere. In the context of CASA, the primary interest is in reducing emissions from agricultural practices, which contribute significantly to global emissions.

With regards to the three terms above, CASA aims to deliver climate resilience, adaptation and, where possible, mitigation for the smallholders and agribusinesses with which it works. The primary focus for smallholder farmers is on adaptation and resilience, aligning with ICF KPIs 1 and 4. As indicated in this report, mitigation is given the clarifier of 'where possible' to reflect the limited sphere of influence of smallholders on global emissions and the subsequent programmatic focus on reducing smallholder vulnerability to climate change. Mitigation is likely to be most relevant to CASA's work with agribusiness, which may present opportunities to implement mitigation measures at the agribusiness level, such as a change like switching to renewable energy for drying agri-products for processing rather than firewood.

CASA worked with Agwenda to introduce dual purpose breeds such as Kruoilers to smallholder farmers to increase resilience to weather changes and enhance productivity and income.

2. WHAT HAS HAPPENED SO FAR?

This chapter provides an overview of CASA's work on smallholder climate adaptation and resilience with some mitigation efforts within Components A and CASA TAF up to October 2023, based on Component A and CASA TAF's own analysis of their work so far.[13] The narrative review of what has happened to date is framed around the pre- and post-ICF timeline (see Table 2). Throughout, where it is possible, analysis has been made on the efficacy of CASA's approach to climate, including how it has been demonstrably improved over time, where opportunities have been missed, and what this may mean for outcomes.

Climate Considerations in the Theory of Change

The emphasis placed on climate within the CASA Programme has increased over time. The initial CASA Business Case (2017) includes several references to climate. Initially, climate was flagged as a key contextual factor that will influence all agriculture programming due to its impact on crop yields and thus economic opportunities. The Business Case also identified several knowledge gaps relating to climate change, including how smallholder supply chains could be stabilised and grow in the face of climate change, how climate was impacting farmers and agribusinesses, and how these could be addressed through commercially driven climate-smart solutions. With respect to programming, the Business Case noted current and future climate risks as one of six criteria for value chain selection, along with impacts on gender equality and social inclusion (GESI) and food and nutrition security (FNS) – the other two crosscutting themes mainstreamed in CASA since its inception. Finally, the Business Case included a climate change and environment (CCE) appraisal that noted the importance of embedding climate in CASA programming to ensure investment and actions build farmer resilience and improve SME capacity to mitigate climate risks to their businesses, whilst also adopting safeguarding measures to ensure that no environmental harm arises from CASA interventions.

The reference to climate in the Business Case was, to some extent, carried into the original CASA Theory of Change (ToC), where climate change was listed as a crosscutting issue "to be addressed at all levels". Despite this inclusion, climate did not receive a specific impact level comment in the ToC, which cited 'improved smallholder incomes and reduced poverty', 'improved food security and potentially other social development outcomes' and 'contribution to inclusive and sustainable economic growth' as the three impact areas for CASA. This, and the lack of any specific climate indicators in the original CASA logframe (see more in Chapter 4), are indicative of how climate change was initially viewed and framed as a crosscutting issue for CASA, rather than a core objective of the programme. As such, whilst there has always been some reference to climate in CASA's work with SMEs, it has not always been foregrounded in the intervention design phase, nor in the reporting. Rather, CASA components focused on delivering and reporting against the KPIs included in the original logframe (such as smallholders reached and increases in income).

As of 2022, CASA became 100% funded by ICF, which required the programme to contribute to mitigation of, and/or adaptation to, climate change. As such, climate was changed from a crosscutting theme to a central programme objective. The 2021/22 and 2022/23 Annual Reviews[14] noted that CASA had been slow to pivot to these changing circumstances, instead continuing to focus on the KPIs detailed in the logframe. CASA has since undertaken several measures (including commissioning this report) to ensure that climate is adequately addressed in the remaining years of the programme, making positive contributions to both agribusiness and smallholder adaptation, resilience and, where possible, mitigation.

13. And in the case of Component A, the late 2023 climate audits conducted by external climate experts in each implementing country.
14. CASA 2022 Annual Review; CASA 2023 Annual Review

Table 2: Timeline of the Key Climate Milestones

<table>
<tr><th></th><th>2018</th><th>2019</th><th>2020</th><th>2021</th><th>2022</th><th>2023</th></tr>
<tr><td>ICF Commitments</td><td colspan="3">Funding before ICF commitments</td><td colspan="2">100% of CASA funding under UK ICF commitments</td></tr>
<tr><td rowspan="2">Component A & CASA TAF</td><td rowspan="2"></td><td rowspan="2">Inception of CASA: ToC and logframe (no climate KPIs) developed</td><td rowspan="2"></td><td rowspan="2"></td><td rowspan="2">Logframe revisions (with climate ICF KPIs) submitted to FCDO</td><td>2022 logframe revisions approved, ICF KPIs incorporated</td></tr>
<tr><td>A new set of 2023 additions (including the additional ICF KPI references) in the logframe awaiting approval</td></tr>
<tr><td rowspan="6">Component A</td><td rowspan="6">Pre-contract country and value chain selection completed</td><td rowspan="2">Climate Change and Environment (CCE) Framework developed</td><td rowspan="2"></td><td rowspan="2"></td><td rowspan="2"></td><td>Country Climate Audits undertaken</td></tr>
<tr><td>Country Climate Strategies developed</td></tr>
<tr><td colspan="2">Cohort I: Uganda – closed Q1 2021 due to budget cut</td><td colspan="2"></td><td colspan="2"></td></tr>
<tr><td colspan="4">Cohort I: Malawi, Nepal projects completed Q1/2 2023</td><td colspan="2"></td></tr>
<tr><td></td><td></td><td colspan="3">Cohort II: Malawi and Nepal (ongoing)</td></tr>
<tr><td></td><td></td><td></td><td colspan="2">Cohort III: Ethiopia and Rwanda (exploratory work began in 2022)</td></tr>
<tr><td></td><td></td><td></td><td></td><td>Cohort III: Concept or business planning stage</td></tr>
<tr><td rowspan="4">CASA TAF</td><td rowspan="4"></td><td rowspan="4"></td><td rowspan="4">CCE approach developed</td><td rowspan="3">CCE tools developed (risk and opportunity assessments)</td><td rowspan="3">Launched CCE projects (biochar feasibility, cost-benefit analysis & field trials) with Kentaste; Launched climate tools with 1 other company (Exotic)</td><td>CCE tools used based on initial pilot and evolving needs/trends (e.g., ICF, SBTI) refined</td></tr>
<tr><td>CCE tools used with 3 other companies</td></tr>
<tr><td>Climate initiatives with 3 additional companies</td></tr>
<tr><td>Assessed 5 companies as part of climate tools development process</td><td colspan="2">Identification of climate initiatives that could be undertaken with 5 portfolio companies selected; One pilot with Kentaste completed</td></tr>
<tr><td>CCE tools launched for 2 companies (Kentaste, Niche Cocoa)</td><td></td><td>Identification of climate initiatives that could be undertaken with 2 additional portfolio companies (bringing the total to 7)</td></tr>
</table>

CASA Component A: The Market Systems Development Component

The first Component A work on CCE was during the 2019 inception phase, where an initial CCE Framework was commissioned by Component A. The primary objective of this work was to provide guidelines for Component A to plan its interventions towards achieving climate-resilient development outcomes. The output was a 15-page report that documented the relevant CCE considerations for CASA and offered analysis and tools for how to mainstream CCE across CASA interventions and potential indicators for monitoring achievements, as per the original mandate for how to treat crosscutting issues.

The crosscutting analysis covered the two selected value chains (VCs) in each of the three initial countries: Uganda (Sesame and Beans); Malawi (Aquaculture and Poultry) and Nepal (Vegetables and Dairy). Risks for each VC and possible opportunities were documented by the assessment, with a view to these being elaborated on during the inception phase by the country teams. The CCE Framework also recommended four CCE activities for CASA, based on the assertion from the author that the Inclusive Markets Practitioner Handbook being followed by CASA was 'largely silent on issues of climate and environment', especially in comparison to other crosscutting issues such as GESI. The four activities were:

- **CCE Trainings** were envisaged to sensitise country teams and partners (e.g., SMEs, cooperatives) to issues of CCE, including on the CCE Framework and how CCE approaches and methodologies could be baked into intervention design. *In partner trainings under some interventions, there have been climate aspects such as energy audits for dairies in Nepal and information on climate-smart aquaculture production in Malawi. However, trainings and sensitisation of CASA country teams on climate have not taken place and would likely have been beneficial for climate mainstreaming efforts across CASA.*

- **Monitoring visits** were suggested to assess CCE mainstreaming and identify gaps, emerging issues, good practices for mainstreaming CCE, and early CCE outcomes. *To date, these have not taken place. Review of interventions from a climate perspective has been undertaken remotely in Malawi and Nepal through the CASA Climate Audit, although this has been a retrospective action that did not have the opportunity to adapt active interventions to respond to climate opportunities (see below).*

- It was also recommended that **specific studies** should be commissioned to address emerging questions related to CCE aspects of intervention implementation. *CASA's evidence portfolio contains several climate-related publications, mainly pertaining to how private financing can be leveraged for climate work. However, to date, there has been limited interrogation of the CASA portfolio to assess the extent to which commercial agriculture models piloted under CASA have been successful in addressing climate change threats to smallholders.*

- Finally, as the implementation of interventions progressed, various **tools and resources** such as training manuals and guides were to be developed to facilitate CCE mainstreaming, building on the initially used CARAT[15] tool, which was to assess future climate scenarios and apply a climate-crop model to assess impacts. *Previously, no tools have been developed by CASA. However, more recent (late 2023) changes to the logframe have seen new analysis tools for climate resilience. In addition, CASA TAF developed and utilised the CCE approach and tools from 2022 (see below).*

The CCE Framework recommended that climate indicators, to be standardised across the CASA logframe (for both Components A and B) in accordance with FCDO guidance, were aligned with the following ICF KPIs, with the following comments given in the 2019 Framework:

> **KPI 1. Number of people supported to cope with the effects of climate change.**
> For this, we will need to know some of the expected changes under different climate scenarios.
>
> **KPI 4. Number of people with improved resilience as a result of ICF support.**
> May be of use but we may be able to capture quite a bit of this already under KPI 1.

15. Climate and Agriculture Resilience Analysis Tools developed by USAID Feed the Future in Malawi (Y2 Annual Activity Report, Feed the Future Malawi Ag Diversification Activity, p.23)

KPI 5. Number of direct jobs created as a result of ICF support.
May be of interest to examine not so much at rural household level but at commercial or investment level.

KPI 6. Change in Greenhouse Gas (GHG) emissions as a result of ICF support.
Of interest for the home office, but may be above and beyond the scope and expertise of the project itself.

Despite the recommendations from the Framework, ICF KPIs were not included in the initial CASA logframe. The only mention of climate was that the number of smallholders benefiting from CASA should be disaggregated to highlight how many smallholders met the target for ICF KPI 1. In contrast, there was a specific impact indicator for food and nutrition security and an outcome indicator for gender equity and social inclusion. This highlights how CASA was not intentionally designed to address climate change as a key programmatic issue, further reflected by the incomplete uptake of activities suggested by the initial CCE Framework (see above).

Whilst the CCE Framework documented a suite of options to ensure climate action through Component A, when implementation started only three tools were used to assess the willingness and capacity of agribusinesses to address the three crosscutting areas prior to a partnership being agreed. Firstly, a section in the templates for both Concept Notes (pre-approval of idea by FCDO) and Business Plans (final intervention details for FCDO approval), where the country teams were encouraged to reflect on the climate implications of the partnership and interventions. Initially, these sections were to be reviewed by the programme-level Climate Change and Environment Lead. However, this position was eliminated in year 3 of the programme due to FCDO budget cuts; as such, there was less expert input on the integrity of Component A's climate activities. Secondly, CCE was mentioned in the CASA Partner, Additionality and Modality Assessment, detailed in Annex 2 of all prospective Business Plans. These were completed by in-country CASA teams in conversation with SME partners submitted to FCDO for approval. However, as with the other crosscutting issues, climate was only included through a single question within this assessment to be answered by market managers[16]. The question to be considered in Business Plan formulation was: 'Do the company take a position or action on climate/environmental issues? What is their level of interest and willingness towards environmental standards?'

This question falls far short of the suggestions from the 2019 CCE Framework. Reflection on this question alone would not allow climate risks and opportunities to be adequately considered, increasing the risk of maladaptation[17] and missed opportunities in intervention design and delivery and/or missed opportunity for unintended positive impacts. However, as noted by the Nepal and Malawi teams, it is possible that interventions could have had unintended positive climate impacts that were not by design, nor adequately captured by the MEL framework (see Table 3 below). Despite the lack of structured climate tools utilised during the early years of CASA, the 2023 audits of Nepal and Malawi's portfolio highlight a number of climate-related activities (Table 2 and Annex 1).

In addition to Annex 2 of the initial Business Plan process, there was further CCE consideration in intervention design at the work planning stage. Each CASA Component A intervention has a project workbook to guide implementation, containing reflective questions about how each of the crosscutting issues are being addressed by the intervention. For CCE, each workbook contained six key questions that captured climate risks, how smallholders were being supported to cope with risks, equity of support across beneficiary groups, how future climate change may impact the SME and how the project may contribute to ICF KPI 1.

Responses to these questions were generated by market managers in discussion with the SME partner

16. One market manager is assigned per value chain in each of the CASA Component A countries and responsible for interventions in that value chain.
17. In a climate change context, maladaptation refers to actions intended to reduce the impacts of climate change that actually create more risk and vulnerability.

and, pre-budget cuts, also received review from the programme-level crosscutting experts.

One challenge here is how, when relying on agribusiness partners and CASA market managers, smallholder perspectives on climate resilience are integrated into answering these questions. Additionally, whilst the prompting questions may have alerted implementing teams and SME partners to the CCE implications or relevance of the intervention, they do little to mandate CCE action or to encourage consideration of how climate resilience may be engendered. This lack of mandated action on CCE, combined with the increased attention to food and nutrition security at this time in the programme due to ongoing global crises, including COVID-19 and Russia's invasion of Ukraine, meant that CASA lacked a concerted effort on designing climate-smart interventions. This points to the wider importance of creating mandated targets on key issues if they are to be meaningfully attended to by development programmes.

The above approach was in place until mid-2023. The 2022/23 Annual Review rated CASA as poor for overlooking climate objectives and Component A's climate mainstreaming efforts and disaggregated reporting at the output level were considered insufficient. The Annual Review echoes Component A's explanation that budget cuts and the dismissal of thematic advisors to support the country teams contributed to the inadequate reporting. However, the root cause was identified as the lack of a systematic approach to addressing climate change issues through CASA programming. Originally, Component A prioritised value chain commercialisation to improve smallholder incomes; climate factors, whilst considered, were given a lower weighting in the initial selection of value chains or market assessments versus other factors, making it difficult to retrofit activities accordingly. In response to these deficiencies, which were increasingly pressing due to 100% ICF funding, CASA Component A responded with the introduction of Annex 9 and production of country-level CCE audits and strategies, which represents the largest step-change in CASA Component A's consideration of CCE.

Annex 9 of the Business Plans was designed by a Climate Change Expert in accordance with best practices and FCDO feedback from the Annual Review, especially regarding the need to align with ICF KPIs. This work framed climate adaptation outcomes based on 'three interrelated resilience capacities'[18] to maintain clarity, consistency and rigour, while retaining considerable flexibility across sectors and contexts. These include the ability to adapt to, anticipate, and absorb climate impacts, which are collectively referred to as the '3As'.[19] The '3As' framework is designed to provide a method for ensuring consistency in defining climate resilience whilst also allowing for flexibility to apply the term across different contexts in a way that does not demand significant resources. Annex 9 and the new climate resilience tool for the outcome assessment (see Chapter 4), which integrate the 3As, are now being adopted by Component A as a structured approach to design and deliver resilience-building activities within each project partnership. Annex 9 itself is a clearly structured, comprehensive and compulsory framework for assessing the CCE implications at the planning stage of every new intervention. It contains four key sections, each with clarifying questions/checklists, addressing:

1. A short climate risk assessment, including reflections on ICF KPIs 1, 4 and 12;
2. An environmental checklist for the partner which includes an analysis of risks and agreed mitigation measures;
3. A sustainability assessment to determine how the intervention will embed CCE action within the partner SME; and
4. A space for qualitative conclusions and actions.

These assessments, which are significantly more

18. Bahadur, A., Peters, K., Wilkinson, E., Pichon, F., Gray, K. and Tanner, T. (2015) The 3As: Tracking resilience across BRACED. Working Paper BRACED Knowledge Manager.https://cdn.odi.org/media/documents/9812.pdf
19. ibid.

rigorous than their predecessors, are carried out by the country teams in conversation with the SME partners and with support from the country climate experts, who were hired in 2023. The completed Annex 9 is attached to the Business Plan for each intervention, which is sent to FCDO for approval prior to the signing of partnership agreements between CASA and SMEs. As Annex 9 has only been applied to the most recent round of Component A partnerships, many of which are yet to begin implementation, there are no substantive data to indicate whether or not it has resulted (or will) in tangible climate benefits for SME partners of smallholder producers. By the end of CASA programming, it should be possible to have more concrete evidence on climate linkages, owing to both the new strategy for integrating climate into programme design and increasingly robust systems for monitoring and evaluating climate activities (see Chapter 4).

In tandem with the creation of Annex 9, a series of audit and strategy reports were also commissioned. In Nepal and Malawi, audits were conducted of previous and ongoing partnerships to assess the extent to which climate had been addressed, even if not by design, across the portfolio of projects. The findings of those audits are presented below. Additionally, all four active CASA Component A countries developed fresh Climate Strategies, an evaluation of which is given in Chapter 3. As with Annex 9, there are as yet limited data available on how the insight from the audits and guidance of the strategies have influenced the CCE work of CASA Component A. However, it should be noted that in methodology and substance, they represent concise documentation on how CASA Component A countries can consider climate change across their forthcoming intervention portfolios as the programme enters its final years.

Component A: Findings from the Climate Audits in Nepal and Malawi

Despite the limited appraisal of CCE issues in programming before 2023, it is important to assess what climate impact Component A may have generated from 2019 through 2023. To this end, Component A conducted climate audits for its Nepal and Malawi interventions in 2023. Table 3 highlights some of the work done in each VC that contributed to CCE adaptation, resilience or mitigation.

Women smallholder farmers in Narti Cooperative's supply chain learning climate smart agriculture technique through demo-plot activity supported by CASA. The training focused on promoting climate adaptation.

Table 3: Climate Related Activities from Component A's Interventions in Nepal and Malawi

Component A in Nepal	Component A in Malawi
Vegetable Value Chain • Promoted organic fertilisers to reduce GHG emissions, providing higher yields while preserving the environment. • Investment in climate-resilient seeds and crop adaptation strategies to support farmers to cope with climate-related challenges. • Incorporated soil testing and drip irrigation practices to improve water and resource management and reduce water needs, increasing resilience to drought. • Collaboration with Nepal Agricultural Cooperative Central Federation Ltd (NACCFL) for packing and storage of vegetables reduced food waste, reducing resource consumption per unit product at market. • The "GeoKrishi" and "Kheti" apps provided farmers with soil health and land management advisory services to improve farming practices, including on how to manage possible changes in climate.	**Aquaculture Value Chain** • Integrated Farming used by smallholder aquaculture farmers by planting fruit trees, bananas, and vegetables around their fishponds. These plants are watered with pondwater (naturally rich in nutrients) and protect the pond walls from damage caused by heavy rainfall and floods. • Smallholders planted pine trees on the slopes surrounding the fish farm, which aids in land restoration and sustainable environmental management through afforestation to stabilise the soil and also generates climate positive impacts of tree planting. • Smallholders constructed dykes and overflows using vetiver grass and sugarcanes to prevent damage caused by heavy runoff, increasing resilience to flood events. • During colder seasons, which are increasing (likely due to climate change), some farmers built over-the-pond greenhouses to raise the water temperature and extend the breeding window.
Dairy Value Chain • Forage-based dairy production as an alternative feed reduced methane emissions and improved soil health and biodiversity. • Energy-efficient dairy processing and packaging machinery minimised costs and reduced carbon footprint through energy-audits. • Training in Good Manufacturing Practices at the farm level enhanced climate-resilient dairy practices, mainly around resilience of feeding grasses. • Decentralized processing and use of energy-efficient machinery lowered emissions and waste. • Promotion of fuel-efficient transportation methods contributes to reduced emissions. • Focus on food loss reduction and management is a key priority, reducing resource (e.g., land, water) consumption per unit product on the market.	**Poultry Value Chain** • Transition to legally produced charcoal (Choma charcoal from licensed producers accountable to sustainable production practices) for cost-effective heating and sustainability. • Use of renewable energy sources, such as solar power and biogas, to reduce the carbon footprint, ensuring efficient farm operations and enabling water systems and irrigation. • Use of chicken manure for organic vegetable growth, reducing the need for chemical fertilisers which may harm soil health if used inappropriately. • Adoption of alternative feed ingredients, like black soldier fly and termites, to lower feed costs and substitute out ingredients with higher resource requirements. • Introduction of dual-purpose breeds, such as Kuroiler chickens, for increased resilience to weather changes and enhanced productivity. • Promotion of eco-friendly chicken pen construction practices, including the use of unburnt bricks, reducing emissions associated with pen construction.

Additional granularity of data was available in the Nepal audit. Interpretation of the audit by a CASA-external analyst suggests that many of the climate-related interventions in Nepal were intentional and spanned multiple nodes of the value chains and multiple aspects of climate adaptation, resilience, and mitigation (Annex 1). However, although they likely generated positive effects, as with the climate-related activities noted in Table 3, there is a lack of robust data to monitor the outcomes and impacts of interventions in terms of climate adaptation or resilience. As such, it is impossible to verify the actual climate benefits the interventions generated for intended recipients. This is something that needs to change as CASA is required to demonstrate tangible climate impacts. In response, the CASA teams from Components A and CASA TAF have updated their outcome assessment methodologies to better capture climate impact (see Chapter 4).

Several other common conclusions can be drawn from the audits and are synthesised below.

Lack of Climate Integration Approach: The CASA team in Nepal recognised climate and environmental concerns but lacked a systematic approach to address specific climate challenges, indicating a deliberate but incomplete integration (Annex 1). In Malawi, project designs acknowledged environmental and climate issues, but a systematic approach was missing, leading to missed opportunities, with unintentional climate outcomes observed as additionalities achieved by the smallholders/agribusinesses rather than deliberate programmatic intentions.

Risk of Maladaptation: In the Nepal audit, despite the presence of adaptation outcomes reported as co-benefits, there is a lack of robust data to demonstrate increased resilience compared to baseline conditions. The poultry value chain in Malawi reported activities generating positive climate impacts, such as the increased drought

CASA worked with Nepal Dairy for production of cheese at source which has helped the dairy to save on fuel costs associated with transporting raw material.

resilience of the promoted Kuroiler chicken species (promoted for their market potential), which in turn improve the resilience of smallholder poultry livelihoods. This reflects an unintended contribution towards climate-resilient measures. However, there can be maladaptation risks that are not easy to identify without an effective reporting tool. For example, increasing aquaculture production without consideration of climate risks could further expose a smallholder and/or pose environmental threats if poorly managed, e.g., polluted run-off. Planting single tree species without a sustainable forestry strategy could be rendered maladaptive as they can substantially reduce the biodiversity under their cover.

Leveraging Finance and Climate Disaggregation: There has not been a requirement to disaggregate data on leveraged private finance according to the purpose of its use, so it is not possible to determine how much finance CASA has leveraged for climate purposes to date. However, the recent introduction of ICF KPI 12 into the logframe will mean it will be mandatory to report on this in subsequent years of the programme.

Summary

Despite being a crosscutting theme since the programme's inception, climate change objectives were marginalised in CASA during its initial years of operation, with the focus being directed toward key logframe targets on farmer income and pressing topical issues such as food and nutrition security following the COVID pandemic and Russia's invasion of Ukraine . However, as highlighted by the climate audits, several interventions with a credible climate element were implemented by Component A during this time, some intentionally and some coincidentally. Despite these positive climate actions, CASA remained poor on both strategic implementation of climate activities (i.e., scanning for risks and opportunities) and collection of robust data on climate outcomes and impact. Since the shift to ICF funding, Component A countries have taken meaningful steps to improve their climate contribution. Annex 9 allows for a more thorough appraisal of climate opportunities and risks than previous iterations. Additionally, the commissioned country strategies and audits represent a strong learning exercise for how climate can be increasingly integrated as a core objective of in-country intervention design and implementation.

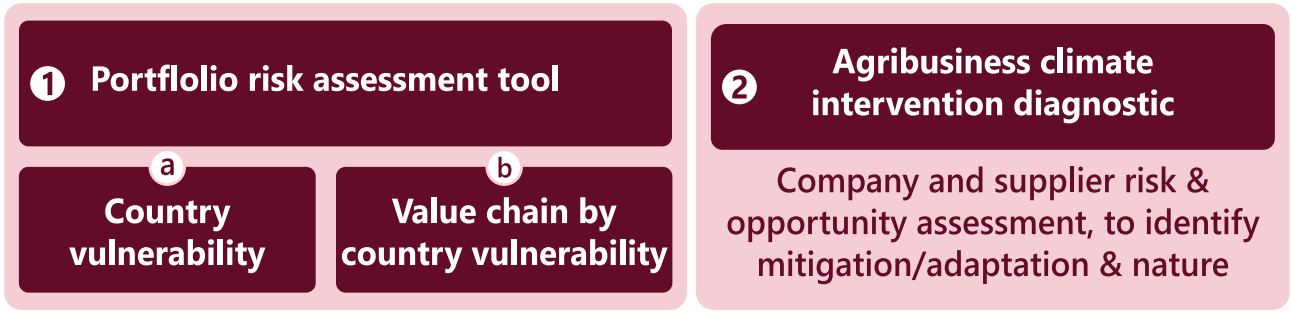
CASA TAF: The Technical Assistance Component

CASA TAF has had a two-pronged approach to selecting investor partners. In earlier years, CASA TAF conducted a landscape analysis of DFIs and assessed suitability based on alignment in impact interests, and the size of agribusiness investments in priority FCDO countries; and selected partners based on suitability, mutual fit and investor demand. As the programme gained traction, it also responded to proactive requests from impact investors that learned about CASA TAF through knowledge exchange events or via other investor partners (e.g., CFC, Acumen). CASA TAF assesses each investor partners' agriculture portfolio, and jointly identifies agribusinesses that could potentially benefit from inclusive technical assistance. Initially this was limited to "sourcing businesses" who purchased from smallholders but was expanded in late 2022 to include any business that has a relationship with a smallholder, including those providing services and inputs.

The core criteria during the evaluation process for investor partners (in place since 2019) take several critical factors into account, including: basic environmental, social and governance (ESG) compliance; agriculture portfolio size; investments in FCDO priority countries; alignment of impact objectives with those of CASA; potential for commercial growth; and demand for the intervention from investors. Meanwhile, the agribusiness selection process under CASA TAF includes reviewing investor databases to identify companies with the highest potential for inclusive growth related to commercial performance, smallholder impact, gender inclusivity, and contributions to climate adaptation, mitigation, and circularity. This comprehensive assessment is designed to pinpoint agribusinesses that align with FCDO's goals and present economically viable investment opportunities.

As with Component A, climate has always been a crosscutting theme for CASA TAF. In particular, since 2020, there has been a progressively more focussed effort to address CCE across its portfolio, reflecting the widespread impact and heightened severity of climate change (see Table 1). These efforts have been consolidated into a 'CCE approach' (Figure 1) and 'CCE tools' (Table 4) which are now used across CASA TAF interventions, as assessed below.

Figure 1: CASA TAF's CCE Approach to Intervention Design



Component TAF's CCE approach (Figure 1) seeks to address climate considerations across a range of scales (national, value chain, and firm) by applying four key CCE tools (Table 4). Initially, secondary data sources are used for assessing climate vulnerabilities at national and value-chain level risks during agribusiness selection. These assessments are conducted during the inclusive business plan development stage by climate experts, technical assistance providers and CASA TAF core team members, meaning that they can be considered in intervention design to maximise climate opportunities and minimise threats. Such macro-level assessments are indeed essential for identifying broad levels of risk; however, it is imperative that these are supported by more specific analyses to ensure opportunities and threats specific to partner business models are considered in intervention design. To this end, the second phase of the CCE approach deploys micro-level tools (Table 4) to assess climate opportunities at the agribusiness level. The opportunity assessment assists agribusinesses and investors in identifying and prioritising investment opportunities and provides firms with a short-list of potential climate activities that align with their business objectives, investment appetite and farmer engagement models. Once the firm has selected which of the actions from the opportunity assessment it wishes to pursue, CASA TAF provides focused technical assistance to help deliver the activity. By integrating climate activities into its technical assistance approach, CASA TAF emphasises the commercial potential of these agribusinesses while demonstrating climate-proof bankable investments.

A supplier for CASA partner Paicho Pasal has equipped their tomato field with a drip irrigation system installed to increase resilience against drought, in turn improving the resilience of incomes for smallholders employed at the farm.

Table 4: Climate Diagnostic and Agribusiness Assessment Tools Used by CASA TAF

CCE Tool(s)	What does it do?	What are its outcomes?	Common data sources
Macro Country Risk Assessment	Evaluates the risks posed by climate change and environmental stressors based on factors such as vulnerability, exposure, sensitivity, adaptive capacity, and readiness	To prioritise and tailor interventions	Notre Dame Global Adaptation Index, World Bank, UN FAO
Macro Value Chain Risk Assessment	Assesses risk to crop yields given regional temperature projections	To prioritise and design interventions	IPCC, World Bank Climate Knowledge Portal, UN FAO, World Bank Open Data portal and various value chain-specific peer-reviewed literature
Agribusiness Opportunity Assessment	Assesses the opportunities and threats related to climate that are relevant to a particular partner	Provide agribusinesses with a curated short-list of potential climate interventions matching their business objectives, climate investment appetite, and direct farmer activities	Conversations between agribusinesses and climate experts hired as consultants
Focused Expert Technical Assistance	For the climate interventions selected by the partner, CASA TAF undertakes a more detailed review of productivity, mitigation, adaptation, and business appetite to ultimately design the intervention	Intervention planned in a way that is tailored to partner climate opportunity assessment	CASA TAF engages short-term technical assistance from experts in specific fields, depending on the nature of the CCE intervention, to ensure successful implementation

During the inclusive business planning phase, agribusinesses can benefit from expert advisory support from CASA TAF's short-term consultants in identifying opportunities and strategies to integrate climate mitigation and adaptation, as well as nature-positive actions, into their business models. CASA TAF's tools and advisory support are designed to help businesses define the business case and quantify returns for the company and their farmer suppliers while identifying the necessary technical assistance and blended finance requirements to implement the plan. Additionally, a thorough analysis of costs, benefits, and risks for agribusiness and smallholder farmers can be provided by using these tools while also offering expertise in feasibility assessments, project development, trials/pilots, and impact measurement to support the implementation of climate-related solutions.

This reflects a more robust approach than seen in Component A, which has adjusted its intervention design phase to more meaningfully consider climate factors more recently. There is therefore opportunity for cross-learning between Components A and CASA TAF on effective ways of implementing climate considerations. It is important to note that approaches will likely need to be modified to reflect the different characteristics of the SME partners (generally smaller in Component A) and the different modes of engagement (Component A usually only bring in technical experts at the implementation phase, though this is changing with the hiring of country climate experts in late 2023).

Whilst the macro-level assessments are performed pre-partnership, the agribusiness opportunity assessments were conducted earlier as part of the TA to business partners. This timing creates a risk that climate opportunities (or threats) are not identified early enough to be integrated into intervention planning. In response and aware of this limitation, CASA TAF staff intend to conduct the opportunity assessments much earlier in the design process prior to the implementation phase. In this regard, they could take lessons from Component A's work to institute Annex 9 at the pre-partnership agreement stage of intervention. Having discussed the nature of the tools, the following section reports on how the tools have been deployed by CASA TAF to date.

Deployment of CASA TAF's CCE Approach

Following initial development of CASA TAF's CCE approach in 2020, it has been implemented in six countries, with eight partners (Table 5). To date, the only completed pilot intervention designed using the CCE approach is the biochar pilot project for the coconut value chain in Kenya, which was carried out by Kentaste Products Limited (see Box 1). The other interventions designed using the CCE approach have all either stalled due to various external factors (as detailed in Table 5) or remain in the design phase and thus cannot yet be reported on.

Table 5: Implementation of CCE Approach by CASA TAF

Country	Value chain	Theme	Climate intervention identified	Status
Ethiopia	Rapeseed, soybean, sunflower	Adaptation	Integration of climate smart agricultural practices in training activities for farmer cluster groups and intermediary agents	Design phase
Ghana	Cocoa	NA	CASA TAF began the diagnostic process, but due to the company restructure paused the process and did not get to the micro-opportunity assessment phase	Stopped due to a company restructure and CASA TAF ceasing TA with the company
Kenya	Coconut	Adaptation Mitigation	Biochar pilot (decentralised production and field trials)	Completed pilot: Company still considering adopting
Kenya	Macadamia	Adaptation	Input seedling distribution with climate-smart agricultural training	All TA with business has been put on hold due to macadamia market conditions
Kenya	Avocado	Adaptation	Integration of climate-smart agricultural practices in farmer extension and advisory services	Design phase
Nigeria	Rice	Adaptation	Flood risk mapping for SHFs, identification of shorter season rice varieties, and promotion of regenerative practices	Implementation ongoing
Philippines	Cocoa	Adaptation	Country and value chain macro-level assessments completed	Design phase
Zambia	Maize	Adaptation	Conservation agriculture integrated in farmer extension and advisory services across "yield centres"	Implementation ongoing

Box 1: Piloting the feasibility of biochar production in the coconut value chain

Objective:

To transform coconut husks (generally considered waste material) into biochar, to reduce waste and greenhouse gas emissions from open burning. Biochar serves as a carbon sink when it is used in soil, thereby helping to mitigate climate change. Waste heat that is generated during the production of biochar can be utilised for industrial processes, which has the potential to reduce energy consumption in the long run.

Outcomes:

To date the results are inconclusive as biochar's effect on soil health take some years to become apparent and the trials were conducted during extreme drought. However, the pilot study underscored the potential of biochar to reduce emissions, enhance soil health and water retention, and create opportunities for carbon offset credits, which aligns with the interests of businesses that prioritise sustainable practices.

Similarly to Component A, interventions that consider climate by intentional design using a specific CCE tool or approach are nascent in CASA TAF. Several interventions have considered climate factors in a more informal and ad-hoc way, opportunistically implementing climate activities without going through the full CCE approach (Table 6), and reflecting the commitment to climate as a mainstreamed crosscutting issue in CASA. Despite the possibility of opportunistic climate responses, CASA TAF should focus on scaling the use of its CCE approach across its whole portfolio for three reasons.

Firstly, scaling of the CCE approach to all CASA TAF interventions will be required now that climate is a core programme objective due to 100% ICF financing and a more strategic approach is needed to deliver on climate commitments. Secondly, use of the CCE approach could help to validate the utility of any opportunistic activities suggested by the partner, highlighting if there may be a more effective solution. Finally, it is only by repeated use of the CCE approach and its tools that it will be possible to evaluate their performance and subsequently refine them to ensure they deliver impactful results.

Table 6: Implementation of CCE Interventions Independent of CCE Tool

Country	Value chain	Theme	Climate intervention	Status
Ghana	Cashew Maize Soybean	Adaptation	Promotion of climate-smart agricultural practices during farmer training activities Promotion of organic fertilisers based on soil test analysis and recommendations	In progress (early stage)
India	Paddy Potatoes Wheat	Adaptation	Promotion of climate-smart agricultural practices (e.g., mulching, alternate wet & dry method[20]) through physical and digital channels of farmer extension services	In progress: Messages have been sent to ~12,000 farmers
Indonesia	Coconut	Adaptation	Promotion of dwarf coconut varieties for coconut intensification and rehabilitation programmes	In design
Kenya	Coconut	Adaptation Mitigation	Promotion of climate-smart agricultural practices (mulching, composting) using low-cost farmer videos embedded in annual training activities	Completed: Trained 1,326 farmers
Tanzania	Coffee	Adaptation	Promotion of climate-smart input practices such as composting and liming, and micro-dosing of the correct synthetic fertiliser to increase farmer adoption	In design

20. Alternate Wetting and Drying (AWD) method is a water management technique applied mainly in rice cultivation where the paddy field is allowed to dry intermittently before being re-flooded. The AWD method is designed to reduce water usage and lower greenhouse gas emissions compared to continuous flooding, without significantly affecting the yield. It is considered a climate-smart practice because it can help adapt to water scarcity and contribute to climate change mitigation by reducing water use and methane emissions from rice paddies.

3. CURRENT AND PROJECTED STRATEGIES FOR DESIGNING INTERVENTIONS ACROSS ALL AGRIBUSINESSES TO PROMOTE ADAPTATION, RESILIENCE, AND MITIGATION

This chapter assesses the current and future climate integration strategies for Components A and CASA TAF. In December 2023, it was decided to retain separate climate strategies for Component A and CASA TAF to allow tailoring to their different approaches to CCE issues and varied modalities and geographies of work. In both instances, the strategies are designed to help teams integrate thinking on climate adaptation, resilience, and mitigation where possible, into the design of all new interventions and provide a baseline for assessing and monitoring the relevance of programme activities to the ICF KPIs CASA is now accountable to. This chapter documents key elements of the two strategies and, where possible, assesses how they will facilitate CCE work by CASA and where they could be improved.

Component A: Current and Projected Strategies for Promoting Adaptation, Resilience and Mitigation

The Component A Climate Strategy firstly explains the concept and practice of climate mainstreaming and how it can be integrated into the Market Systems Development cycle. It uses this information to frame the guiding principles of the strategy, which include:

1. Value for money and integration to maximise efficiency;
2. Gender equality and social inclusion to ensure the intersectionality of vulnerability is considered in intervention design;
3. Evidence-based adaptation, to be guided by where evidence points to impact and feasibility of climate interventions;
4. Results-oriented interventions that have tangible and sustainable results for SMEs and smallholders; and
5. Utilisation of locally-available resources to encourage context-specific solutions, improve local capacity and increase sustainability of interventions.

If these guiding principles are absorbed and owned by the implementation team and they can effectively consolidate how climate is understood across country teams, they will help in facilitating climate action in line with CASA's commitments and increase the opportunities for knowledge sharing among country teams.

The strategy also provides a clear plan for implementation, providing five key focus areas:

1. Understanding context;
2. Identifying mitigation and adaptation measures;
3. Stakeholder engagement;
4. Capacity building; and
6. Monitoring and evaluation.

These areas and the guiding principles are considered across the design, implementation, measurement and learning stages of Component A interventions. Particular importance is attributed to stakeholder engagement, with emphasis given to using participatory approaches during both the design and implementation phases in order to ensure interventions cater to local needs and are realistic given existing capacity, whilst also increasing local ownership of climate risks and solutions to

improve the sustainability of activities and outcomes. The implications for design (focus areas 1, 2 and 3), implementation (3 and 4) and MEL (5) are given below.

At the **design** stage, the strategy states that "Assessing climate risks and understanding the contextual vulnerability factors is fundamental to introduce appropriate responses and devise applicable solutions and opportunities for the value chain and agribusiness". This is a welcome addition and shows that Component A is responding to a previous critique of its inadequate attention to climate in intervention design and helps reduce the risk of CASA interventions leading to maladaptive practices at either SME or smallholder levels.

To facilitate thorough and effective incorporation of CCE in intervention design, the strategy suggests a series of trainings and tools to be given to and adopted by the country teams when designing, implementing and evaluating interventions. Training topics proposed include understanding the impacts of climate change on agriculture, climate-smart agriculture, ecosystem-based adaptation and environmental safeguarding. These high-level trainings are likely to be helpful for the country teams in situating their understanding of climate change (noting the teams were not hired for their knowledge on climate change). However, it may be a more efficient use of time and funds to instead consult the climate experts on a case-by-case basis to assess the opportunities and risks with each partner. In this regard, Component A could learn from the macro- and micro-tools adopted by CASA TAF in conjunction with external experts (see Table 4).

At the **implementation** stage, the strategy correctly asserts that, in order to develop effective climate interventions, implementation will have to be tailored to country and partner contexts. Five pillars are suggested to better integrate climate change across interventions in different value chains:

1. **Strengthen evidence on climate and environment related risk and opportunities.** This will be vital for Component A, which to date has not utilised meaningful climate data and evidence in their planning, although Annex 9 will help with this. Component A could also learn from CASA TAF's analysis of climate risks and opportunities, which is better institutionalised in intervention design and implementation. This will be particularly relevant for the micro-tools initially, but macro-tools could be deployed in any Component A expansion into new value chains.
2. **Integrate climate-smart practices in the different stages of the value chains.** As highlighted by Annex 1, Component A already intervenes across the nodes of the value chains it works in. However, this could become more systematic and intentional if informed by reliable climate evidence (e.g., on yield impacts, GHG reduction potential, or resilience outcomes) and integrated into planning at the design phase, to be carried out by country-level climate experts.
3. **Use demographically targeted approaches when promoting sustainable agriculture practices.** This will allow CASA to identify and work with smallholders who are either a) likely to be early adopters and therefore have capacity/influence over wider groups, or b) are particularly vulnerable to the impacts of climate change and therefore in greater need of support. There are clear merits in working with both of the possible groups of smallholders, which respectively offer opportunities for scaling climate-smart practices and also fulfilling CASA's objectives of working with marginalised groups.
4. **Strengthen the capacity of the project implementers and target groups on climate-smart value chains.** This is an important pillar as it acknowledges that in many instances, capacity around climate adaptation is lacking or poorly distributed. The inclusion of the pillar should allow Component A to improve capacity through targeted technical assistance (planned at the design phase) or to promote knowledge sharing and scaling of existing good practice that is already taking place in the value chain, noting that smallholders are often already responding to tangible impacts of climate change but require support to refine and scale.
5. **Mobilising private financing in promoting climate-smart value chains.** CASA has always had a target to support its partners in leveraging private finance, and it is a positive step that the climate strategy mandates that options for climate adaptation, resilience, and where possible mitigation, be the target of these funds. The leveraged funds will also be disaggregated into what percentage is utilised for climate purposes, as mandated by ICF KPI 12.

Regarding **MEL**, the strategy offers specific recommendations on learning from and measuring Component A's climate work. Regarding learning, CASA is in a position of having to quickly evolve and pivot towards climate being a central objective of all programming. This change represents a steep learning curve for the teams. As such, the strategy includes suggestions on how knowledge sharing can enable collaborative learning and adaptive management amongst country teams, facilitating the spread of good practices on climate work across implementing countries. The strategy lays out helpful suggestions on how this could be facilitated through regular climate meetings of market managers and country climate experts. The strategy develop the value of peer-learning recommendations by encouraging peer-learning between CASA components, who are both transitioning to an increased focus on climate change in an agribusiness development context (albeit with slightly different mandates). Regarding measurement, the strategy could be clearer on how to select indicators that provide credible evidence towards these ICF KPIs but are also pragmatic in terms of resource availability for monitoring and evaluation. Specific details on Component A's approach to MEL is given in the following chapter.

Whilst the strategy lays out a clear pathway for how Component A will more meaningfully deliver climate impacts, there are a few elements that could have been further considered. There is little indication on the resourcing requirements for the changes recommended by the strategy. As such, it is unclear to what extent it will be possible to fully adopt new methodologies and ways of working that will inevitably take up additional time and resources. Whilst CASA is mandated to include additional climate targets as a central part of its mandate, it remains accountable for the activities and deliverables that were previously agreed. As such, there will need to be careful consideration of how additional climate activities recommended by the strategy and this report are integrated into programming.

Another notable absence in the strategy is national climate policies. The draft Component A CCE Strategy does not explicitly mention alignment with national climate policies (e.g., NDCs, NAPs). Whilst it will be crucial to consider policy alignment in ensuring sustainability of CASA climate work, it is likely beyond the scope of the Component A CCE Strategy to consider the complex climate policy frameworks of each country in any meaningful way. Rather, policy alignment is detailed in the four country-level CCE Strategies, which demonstrate some level of alignment with national adaptation objectives (see Box 2). Nevertheless, an addition to Component A CCE Strategy should include mention of policy alignment sought at the national level, highlighting that this is addressed by the country-level strategies. Following the links to national policies and targets in the country-level strategies, it will be important for country teams to further interrogate, with the support of climate experts, how CASA can meaningfully connect with and contribute to national climate targets. This would likely involve aligning monitoring procedures to allow CASA data to be inputted into national-level targets where possible. Given that CASA's primary goal is adaptation and considering that the GHG contributions of the smallholders within its sphere of influence are small as compared to other global GHG drivers, CASA will be best aligned with the NAPs as opposed to NDCs, which may only be suited to larger efforts at the firm level, e.g., through energy audits of dairy processors in Nepal, but should still be assessed for relevance on a country basis.

In Malawi, Umodzi have begun using solar power to reduce the emissions associated with their poultry production.

Box 2: Component A's Disaggregated Country Strategies Aligning with National Climate Policies (NDCs, NAPs)

Nepal:

Nepal's climate strategy aligns with both NDC and NAP, emphasising inclusive economic growth and climate-resilient agriculture. The 15th Periodic Plan and Agriculture Development Strategy set ambitious goals, while policies like Agroforestry and Dairy Development focus on conservation and emissions mitigation. The Nationally Determined Contributions target net-zero emissions by 2050, promoting Climate-Smart Agriculture and inclusivity for vulnerable groups, showcasing Nepal's holistic commitment.

Malawi:

Malawi's agriculture-focused climate strategy lacks explicit NAP alignment but adopts a comprehensive approach. Policies like the Climate Change Management Policy and Green Belt Initiative, alongside long-term plans (MW2063, MIP-1), underscore a commitment to adaptation and sustainability, reflecting a broad perspective in addressing climate challenges.

Rwanda:

Rwanda integrates NDC into the livestock sector, showcasing a specific link between climate goals and sector-specific strategies. The forthcoming national aquaculture strategy reinforces Rwanda's commitment to aligning climate objectives with sector-specific plans, exemplified in the aquaculture value chain.

Ethiopia:

Ethiopia's Comprehensive Climate Economy (CCE) Strategy for Soybeans lacks NDC or NAP alignment, highlighting an area for improvement. Despite soybean's economic potential in the National Oilseed and Animal Feed Flagship Program, the strategy falls short of broader climate commitments, emphasising the need for enhancing Ethiopia's soybean sector climate strategy.

CASA TAF: Current and Projected Strategies for Promoting Adaptation

The current and projected strategies under CASA TAF focus on increasing influence over the agribusinesses CASA TAF collaborates with, encouraging these businesses to prioritise climate considerations and adopt climate initiatives. For the remaining duration of the programme, the current strategy centres on mainstreaming the climate diagnostic and assessment processes by consistently conducting the country-level and crop vulnerability assessments, and the opportunity assessments with agribusinesses during the inclusive business planning phase. However, given the limitations of 'mainstreaming' climate from CASA's inception in 2019, it will be vital to document a clear path to implementation of specific climate activities.

Comprehensive Adaptation Measures

CASA TAF adopts a comprehensive approach that includes both adaptation and mitigation measures, understanding that adapting to a changing climate requires more than one-dimensional solutions for long-term resilience. The current strategies involve promoting climate-smart agricultural practices and providing training in tandem with services, for example, input seedling distribution. These initiatives are expected to equip agribusinesses and farmers with the knowledge and tools needed to adapt to climate change, ultimately enhancing their resilience and capacity building. Training, digital extension services, and knowledge sharing provide both agribusinesses and individual farmers with some of the necessary skills for adapting to climate change, building the capacity that is central to long-term resilience.

Forward-Looking Planning

CASA TAF will continue to integrate climate initiatives in its agribusiness portfolio, will continue implementation with ten agribusiness that have identified initiatives, and will conduct vulnerability assessments and opportunity assessments with new agribusinesses that enter the pipeline (Table 7) to clearly lay out a plan for implementation.

Table 7: Pipeline of New Agribusinesses for the CCE Diagnostic and Intervention Planning

Country	Value chain	Theme	Climate intervention	Status
Cambodia	Rice	Adaptation	Natural pest management practices	Planning
Kenya	N/A	Adaptation	Opportunity assessment to be conducted with the agribusinesses (soil testing business)	Planning
Senegal	Banana	TBD	Country and crop vulnerability assessments to be conducted	Planning

Under the umbrella of their CCE approach, CASA TAF also integrates three specialised considerations (Table 8) to ensure a multi-dimensional, impactful strategy tailored to climate-related challenges and opportunities. These range from aligning with Nationally Determined Contributions (NDCs) to leveraging carbon credit markets for smallholders to assessing climate transition and response capacity risks and opportunities among stakeholders.

Table 8: Specialised Climate Considerations

Specialised Climate Considerations	How CASA TAF Supports
Nationally Determined Contributions (NDCs)	Leveraging FCDO Posts to assess the countries in terms of climate mitigation and resilience and potentially design technical assistance projects that have alignment to a country's NDC
Carbon credit and voluntary carbon markets for smallholder farmers	Developing a framework to engage agribusinesses in various phases of project initiation and implementation, including feasibility study, design, partnerships, and rollout to support income generation
Climate transition and response capacity risks & opportunities	Assessing the capacity of a broad set of relevant stakeholders (e.g., smallholder, agribusiness and its buyers, local governments) to respond to and transition as a result of climate risks

Nyaluwanga Farms in Malawi transitioned to using sustainable charcoal to heat their coops for chicks.

4. PAST AND CURRENT MEL AND REPORTING OF CLIMATE WORK

Monitoring, evaluation and learning (MEL) are essential for instituting best practices in climate adaptation, resilience and mitigation. The MEL frameworks of a programme (such as the logframe) set strong directions for which activities are pursued by the implementation team. Monitoring and evaluation are essential, as it is only through collecting meaningful data on an intervention against a verified baseline that outcomes and impact can be assessed and learnt from.

This chapter focusses on how climate has been framed by CASA's MEL procedures, which has varied over time and between components. In 2023, there were changes in both wording and targets within the logframe and revisions to the questions in baseline and outcome assessment templates to strengthen monitoring efforts. These changes are being made in accordance with the ICF KPI guidelines. This chapter analyses the key modifications across CASA's MEL procedures, assessing the implications for delivering climate impact.

Evolutions of the CASA Logframe with Respect to Climate

Helping smallholder farmers adapt to climate change has always been part of the CASA Theory of Change (ToC), but specific indicators were not initially included in the logframe (which covers both Components A and CASA TAF). Consequently, there has been a lack of robust data collection on the nature and scale of CASA's climate impacts. To respond to this gap, there have been two agreed revisions to the CASA logframe in 2022 and 2023, which have implications for CASA's mandate to implement and monitor climate interventions across Components A and CASA TAF.

In response to the 2021/22 Annual Review, CASA revised its logframe across output, outcome, and impact indicators. During this initial revision, CASA introduced ICF KPI 1 at the outcome level for both components, and CASA TAF introduced KPIs 11 and 12 to outcome 4. At the impact level, changes were made to include impact indicator 3, intended to measure resilience. This resulted in the second agreed iteration of the CASA logframe.

The 2022/23 Annual Review pointed out that despite the logframe changes detailed above, CASA were still not adequately attending to climate, especially given the 100% ICF financing post-2022. In the context of imperatives of both ICF funding requirements and the need for urgent climate action in the agriculture sector, CASA conducted further logframe revisions from mid-2023, which were approved in January 2024. In this latest review, CASA teams selected the four most relevant ICF KPIs for further integration into the logframe and MEL plans for both Components A and CASA TAF. The four selected ICF KPIs were:

- **KPI 1:** people supported to better adapt to the effects of climate change.
- **KPI 4:** people whose resilience has been improved as a result of the programme.
- **KPI 11:** public finance mobilised for climate change purposes (only for CASA TAF).
- **KPI 12:** private finance mobilised for climate change purposes.

These KPIs are integrated across impact, outcome, and output levels. At the impact level, indicator three was aligned with KPI 4 to capture '% of target smallholder farmers with improved climate resilience disaggregated by FCDO/ICF recommended demographic characteristic (gender, age (CASA A only), disability (CASA A only), geography'. This indicator will allow CASA to sharpen its focus on climate resilience by eliminating elements such as the linkage between farmers and off-takers, which are already addressed in other areas of the logframe.[21]

21. Previously, the indicator used a broader definition of 'resiliency score' encompassing market and economic factors.

At the outcome level, the outcome statement now explicitly notes climate resilience of smallholders as an explicit objective of the programme. Outcome indicator one will now specifically look to capture climate adaptation benefits; this is an improvement on previously measuring 'supporting measures provided', which provides no clarity on the level of adoption and thus impact. More specifically, for outcome 1, CASA developed intermediary indicators between ICF KPI 1 (number of people reached) and ICF 4 (number of people benefiting). For CASA TAF, it was 'Smallholder producers and micro-enterprises that adopt a behaviour that helps them better cope with the effects of climate change'; for Component A, it was 'Smallholder farmer application of behaviour/practices that helps them better cope with the effects of climate change'. Under outcome indicator four, Component A will now disaggregate for leveraged private financing used for climate purposes, in line with ICF KPI 12 (see below).

At the output level, Component A output relating to TA project delivery now states that these aim to improve climate resilience as well as market access. This has been followed through into the indicators: for Component A, indicator 1.1 now provides disaggregation of projects by those substantially contributing to crosscutting issues, including climate change and environment; under CASA TAF, a specific output indicator (4.4) has been refined to include a sub-indicator (4.4.1) on 'number of smallholders supported to better adapt to the effects of climate change as a result of CASA (ICF KPI 1) '.

A lack of structured targets and monitoring framework creates several challenges for determining and delivering climate impact. The evolution of the CASA logframe to embed climate within the formalised goals of the programme is therefore a positive step for climate action. Without formalised targets, crosscutting issues can often become marginalised in favour of core programme objectives, resulting in missed opportunities or in some cases harm potentially being done. Additionally, even when efforts are made to deliver on crosscuts, their omission from the logframe often means that robust data are not collected. The changes to the logframe detailed above will be supported by the increased granularity when disaggregating data, refinement of baseline and outcome assessments, and the re-defining of impact indicators. These three elements are discussed below.

Prioritising Disaggregation in Line with ICF Guidance

CASA's MEL evolution places a significant emphasis on disaggregation. Whilst CASA has always collected gender-disaggregated data, there are multiple areas where CASA is providing further disaggregation to align with ICF KPIs. These include increasingly granular disaggregation for the beneficiary groups that are supported in adaptation and resilience (KPIs 1 and 4) and what amount of finance mobilised by the programme is for climate change purposes (KPI 11 and 12).

ICF KPI methodology guidelines stress the importance of disaggregating data by sex, age, disability, and geography, as the absence of a universal metric to quantify climate resilience makes it necessary to instead count the number of people whose resilience is enhanced. The primary objective is to attain a nuanced understanding of the diverse climate challenges faced by distinct groups within the smallholder farming community. This disaggregation strategy has the potential to unearth crucial insights into how climate adaptation strategies can be tailored to the specific needs of these groups and will help inform future assessment models of climate resilience.

As the headline indicator, KPI 4 will be used across many countries and contexts. Thus, instead of using a 'measure of absolute resilience',[22] KPI 4 measures the number of people with improved climate resilience to ensure consistency and coherence. It is worth mentioning that the ICF KPI 4 guideline recognises the 3As Framework as a successful model for measuring resilience, which is now embedded into Component A's climate mainstreaming considerations. Such disaggregation is essential as it reveals the equity implications of climate action, helping to ensure that the most vulnerable groups are included and specifically targeted by interventions.

However, it can be difficult for programmes like CASA to target the most marginalised people, as accessing individual smallholder beneficiaries through SMEs (as per the CASA modality) requires smallholders to have sufficient capital (i.e., land, inputs, knowledge) to sustainably and successfully engage with the SME. By definition, therefore, the most vulnerable and marginalised would likely not be able to engage with, and obtain benefits from,

22. KPI 4 Methodology Note: Number of people whose resilience has been improved as a result of ICF

CASA's SME value chain model. However, this does not undermine the importance of improving the resilience of other smallholders and agribusinesses through CASA, who, from a global perspective, can be considered highly vulnerable to the impacts of climate change.

To date CASA has not previously disaggregated what % of leveraged finance is used for climate purposes, instead just monitoring total finance leveraged. Moving forward, CASA plans to disaggregate the value of private (Component A and CASA TAF) and public (CASA TAF only) sector investments leveraged into smallholder-related agribusiness in alignment with ICF KPIs 11 (public finance) and 12 (private finance). This approach allows for an in-depth analysis of the distribution of benefits and the impact of investments across different demographics and sectors. It is worth noting the different roles played by CASA TAF and Component A in reporting KPIs 11 and 12 on climate funding. Both CASA TAF and Component A leverage business growth investment, but CASA TAF can collaborate with large agribusinesses to catalyse public and private climate investments under KPIs 11 and 12. On the other hand, Component A operates at the SME level, focusing on loans or equity for SMEs working with smallholders. As a result, Component A has no remit to mobilise public finance under KPI 11.

Evolution of Methodology for Measuring Climate Impact

To reflect the increased emphasis on capturing climate-related data from interventions, Component A and CASA TAF have been revising the methodologies and tools of their output monitoring and measurement to build a clearer picture of if and how CASA is supporting climate adaptation or resilience.

Values for ICF KPI 1 are based on management information, tracked through internal monitoring, capturing the number of smallholder farmers reached by CASA-supported training or other extension and advisory services which transfer knowledge and skills supporting adaptation to the effects of climate change.

To capture data for ICF KPI 4, CASA MEL personnel have refined and tailored a TechnoServe resilience index (itself adapted from USAID's 'Assessing Climate Resilience in Smallholder Supply Chains' and Mercy Corp's 'Farm Resilience Assessment Tool'). The revised resilience tool has been integrated in Component A's wider outcome assessment tool for year 5 and for the baseline surveys scheduled for 2024. This tool is structured by three dimensions of resilience: Awareness, Resources, and Practices. The CASA-tailored version of the tool has been developed with reference to the ICF KPI 4 guidance to ensure alignment with the '3As' Framework it applies: anticipatory capacity, adaptive capacity, and absorptive capacity.

Under anticipatory capacity, the tool covers awareness of how climate change may affect production in the CASA target value chain, awareness of how to respond to climate hazards/ risks, and access to weather forecast and pest/ disease information and advice. Adaptive capacity data largely relate to application of key adaptive practices and technologies, such as soil and water conservation. Absorptive capacity is covered by access to insurance and other financial products to mitigate risk of climate hazards and adoption of new income-generating activities to diversify livelihoods. A scoring system is used to produce an aggregated rating of resilience. CASA Component A collects this data through its baseline and annual outcome assessment household panel surveys,[23] while CASA TAF assesses through independent evaluations employing a quasi-experimental methodology. Alongside its surveys, CASA Component A also collects qualitative data to help contextualise and explain the results of the survey, including how CASA has contributed to observed changes.

Values for ICF KPI 11 and ICF KPI 12 are based on data on investment leveraged by CASA-supported partner agribusinesses collected by the CASA programme team and validated by evidence showing a credible link to CASA. Investments are counted as "climate finance" if they are made to target bona fide climate change mitigation and/ or adaptation goals, as defined by the OECD DAC RIO Marker definitions, as per ICF KPI 11 and 12 guidance.

23. CASA surveys the member of the household who is engaged in the programme. Households are sampled from lists held by agribusiness partners. From these lists, samples are stratified along lines of geography, value chain and gender. Samples range from 10% - 30% of total participants in CASA activities (typically 500-900 households per country).

The updates to CASA's monitoring and evaluation of performance against ICF KPIs represent a positive shift for two main reasons. Firstly, as the methodologies are based on best practice guidelines, they improve the integrity of the data through which CASA reports its climate impact. This is not only essential for ensuring CASA's reported results are credible, but also because it provides a strong basis for evidence and learning. Secondly, the more nuanced data collection and monitoring efforts with regards to climate are likely to lead to increased consideration of climate at the intervention design phase (seen in the expansion and refinement of intervention design tools addressing climate such as Annex 9). Project teams will be encouraged to think about how interventions can support CASA to deliver its intended climate results, which are now aligned with a more complete and direct understanding of climate adaptation and resilience.

Next Steps: Implementing the Updated Framework

CASA is taking commendable steps to integrate climate within its MEL frameworks. These efforts could be strengthened by integrating existing tools for assessing the climate resilience of smallholders. Such tools would allow CASA to be more confident in asserting and quantifying its impact on the resilience of smallholders, which is difficult to determine through the data collected to date. Examples of possible tools include FAO's SHARP tool (described in Box 3); and TANGO's work on resilience measurement, which includes light, medium and full approaches which may address resourcing concerns over full-scale climate measurement on CASA. Learning could also be taken from FAO's RIMA-II model, which is too expansive to introduce in the remaining years of CASA but could offer instructive points in best practice for monitoring climate resilience. It is important to note that any application of these tools would have to be integrated with the standardised methodology for reporting against ICF KPIs, to which CASA is accountable. Whilst this would create additional work and require further MEL resources, it should be considered on a cost-benefit basis to assess the investment versus any identified and specific learning benefits of having additional data.

Box 3: FAO SHARP+ Tool for Monitoring and Evaluation of Resilience

The Self-evaluation and Holistic Assessment of Climate Resilience of Farmers and Pastoralists (SHARP) tool is a participatory survey approach to evaluate smallholder farming and pastoralist households' climate resilience. It collects both quantitative and qualitative data, converting it into numerical scores to gauge household resilience and related concerns. The tool encompasses 33 modules, with some being mandatory and others optional. These questionnaires cover climate risks, socioeconomic conditions, agronomic practices, governance, and institutions, facilitating data-driven resilience analysis and smallholder profiling. The flexibility offered by the tool to tailor to the needs of any programme, or its components, makes it ideal for crosscutting programmes, such as CASA, to track, reflect on and evaluate the impacts of its outcomes at various scales. SHARP+ is employed globally for climate resilience projects, offering rigorous data collection for baseline and endline assessments and tracking project outcomes. It promotes participatory and context-specific data gathering, making it versatile for diverse programmes and initiatives, including climate reporting within the Paris Agreement's enhanced transparency framework.

CASA has made positive revisions to its MEL frameworks with respect to mandating climate interventions and monitoring their impact. However, CASA's journey is not complete. Now that adequate frameworks are in place, the focus must shift to the practical implementation of these MEL changes into daily operations. CASA needs to prepare for forthcoming data collection efforts, ensuring the readiness of resources and personnel – of which more will be required to support this more thorough data collection. Initial feedback from FCDO indicates a positive reception and a willingness to support CASA's proposed approach. However, the on-the-ground implementation of the revised framework is where the rubber meets the road to demonstrate its ultimate success in reporting climate outcomes.

5. RECOMMENDATIONS FOR IMPROVED CLIMATE INTEGRATION

Following the above review of CASA's climate actions to date, strategies and MEL framework for the future, this chapter provides recommendations for how CASA can continue on this positive trajectory to deliver concrete impact and learnings on climate change as per its ICF mandate and the global imperative for action. Table 9 gives recommendations which are clustered by working area, identifying which CASA constituents they apply to, and provides brief comment on the extent to which they are already in place and the likely challenges involved in instituting them.

Whilst these recommendations emerge from CASA's work and are primarily targeted at the CASA team, they can be adapted to apply to other donors and practitioners working on agricultural programmes, especially those partnering with SMEs to deliver benefits to smallholders.

Table 9: Recommendations for CASA to Integrate Climate Adaptation, Resilience and Mitigation – which are relevant to Component A, CASA TAF and/or Component C

Area	Proposed Actions	Progress to Date and Possible Challenges	Relevant Stakeholders / Component
Logframe and Reporting Integration	• Ensure climate change is a core element of the programme's objectives, by providing specific KPIs within the logframe that mandate activities that address adaptation, resilience and/or mitigation where possible. (Component A + CASA TAF) • Frame well-defined and measurable climate outcome indicators at both programme and disaggregated country and project levels, promoting active monitoring and collaboration among CASA country teams and partner SMEs. (Component A + CASA TAF)	• Done as of Jan 2024	• CASA programme management Team (including FCDO), MEL managers to lead on this

Area	Proposed Actions	Progress to Date and Possible Challenges	Relevant Stakeholders / Component
Climate-Sensitive Agribusiness Selection	• Develop a systematic process for selection of partners that demonstrates a strong commitment to climate change adaptation, and mitigation where possible, by continuing to use and refine Annex 9 of the business plans. (Component A) • Consider the extent to which each agribusiness's efforts contribute to building climate resilience and reducing vulnerability for smallholder farmers in the project intervention countries. (Component A) • Explicit emphasis on the positive correlation between climate resilience of smallholders and SME business sustainability, ensuring climate adaptation responses are integral from the outset rather than added as an afterthought in business model design. (Component A + CASA TAF) • Ensure that the climate risk assessments include a thorough pre-intervention evaluation of climate vulnerabilities and opportunities associated with each investment, along with a cost-benefit analysis. (CASA TAF)	• Annex 9 in operation (Component A); CCE approach being expanded (CASA TAF) – opportunity to learn across components to increase efficacy and standardise practice	• CASA programme management to focus on climate in review of BP; Market managers and climate experts to operationalise selection tools
Climate-Related Capacity Assessments	• Conduct capacity needs and baseline assessments with smallholder farmers and other relevant stakeholders to identify their specific needs for climate adaptation as a prerequisite to designing any programmatic intervention. (Component A + CASA TAF) • Provide tailored support to enhance smallholders' adaptation to climate change, emphasising long-term sustainability. (Component A + CASA TAF) • Build the capacity of CASA staff, partners, and project beneficiaries in climate change adaptation and mitigation practices so they are well-equipped to understand and respond to climate challenges in the agri-food sector. (Component A + CASA TAF)	• Typically, SMEs rather than smallholders are engaged at the intervention design phase. The programme should look to consult representative stakeholders (e.g. farmers unions/cooperatives) to overcome resource and representation challenges of reaching individual farmers. • Climate activities/trainings now a part of many new CASA interventions	• MEL managers • Market managers and country climate experts in intervention design

Area	Proposed Actions	Progress to Date and Possible Challenges	Relevant Stakeholders / Component
Climate Finance Streamlining and Reporting	• Explore ways to integrate blended climate finance mechanisms into CASA's investor mix. Seek out climate-focused financing entities and explore opportunities for blending climate finance with commercial investment to promote climate-resilient agriculture practices. (Component A + CASA TAF) • Establish a robust reporting mechanism specifically for climate finance components through budget-tagging[24]. Clearly track and report the allocation and use of climate-related funding and how it contributes to achieving climate adaptation goals within the programme. (Component A + CASA TAF)	• Predominantly for CASA TAF, who already use ESG in their due diligence for investors • Component A can support SMEs to leverage investment for CCE activities • To be reported under KPI 12	• CASA TAF team • MEL managers
Uptake of climate-relates practices, technologies and knowledge	• Work with SMEs and smallholders to promote the uptake and adaptation of context-appropriate climate-resilient and climate-smart practices, technologies and knowledges that are in alignment with their processes and priorities. Facilitate partnerships with technology providers and promote the diffusion of innovations that enhance resilience to climate change. (Component A + CASA TAF) • Cross-component learning could be used in this regard. For example: CASA TAF reached out to several investors in Africa who specialise in Climate-Smart Agriculture (CSA) technology to prepare the AGRF session brief on alternative climate finance mechanisms. Cross-component sharing could see Component A and CASA TAF link their SME partners to such investors through events like site visits or pitching sessions. (Components A and C + CASA TAF)	• This should be increasingly done at design stage now that Annex 9 and CCE approach are in operation • Component A and CASA TAF meetings have been restarted and should have a focus on climate learning	• Country teams, component management teams

24. World Bank (2021) *Climate Change Budget Tagging: A Review of International Experience.* Washington, DC: World Bank.

Area	Proposed Actions	Progress to Date and Possible Challenges	Relevant Stakeholders / Component
External Stakeholder Engagement	• Engage investors, governments, donors, and agribusinesses in discussions about the importance of mainstreaming climate change in agribusiness investments through targeted events and publications for knowledge and experience sharing (CASA TAF and Component C). • Advocate at policy and SME level that climate resilience is a fundamental part of ensuring the long-term viability of the agribusinesses. (Component A + CASA TAF) • Partnerships for Climate Expertise: Ensure the newly onboarded climate experts are better engaged throughout the project design and implementation phases so that opportunities are taken and risks are mitigated. (Component A + CASA TAF)	• Climate publications forthcoming • Annex 9 helps build the case for climate interventions at firm level • Climate experts have been engaged in most recent Component A business plans	• Component C team, country teams, national climate experts
Climate Policy Advocacy and Communication	• Although CASA missed the opportunity to utilise the Intended Nationally Determined Contributions[25] in its design phase for the interventions, CASA's revised logframe outcome indicators prioritise adaptation results, which will resonate with the NAPs[26] instead of the NDCs, but it should be noted that some countries in the LDCs capture their national adaptation efforts as complementary to achieving the NDCs. CASA may revisit the latest NDCs and NAPs submitted in 2020[27] in its intervention countries to align CASA's work with the national government's plans on agriculture and food security. (Component A) • Ensure the country-level climate strategies for Component A and the CCE Approach of CASA TAF capture context-specific risks and opportunities associated with climate change in the agri-food sector mirroring international and national climate policies and strategies: NAPs, NDCs and government strategies on agriculture and food security. (Component A + CASA TAF) • Use data and evidence to communicate and engage in meaningful dialogues about climate challenges with partners, smallholders and investors, so as to sensitise, raise awareness and generate ideas on responses. (Component C)	• Alignment with NAPs may be challenging from a data perspective; country methodologies will have to be assessed • Individual country strategies have been finalised for Component A countries • Difficult to see impact on climate through data in short time remaining on programme as collection has only started recently	• Country teams, national climate experts, Component C, MEL managers

25. Countries declared their INDCs outlining post-2020 climate actions under the Paris Agreement since 2016 before CASA was designed.
26. National Adaptation Plans
27. NDC Registry

Area	Proposed Actions	Progress to Date and Possible Challenges	Relevant Stakeholders / Component
Coordination across Components	• Component A and CASA TAF should better utilise the chance to share and learn from each other's experiences on generating climate impact through working with agribusinesses. This could be facilitated through contributions to the Component C team's learning papers and also through targeted monthly knowledge sharing meetings, which could address specific thematic areas such as climate. Currently the turnover of thematic experts created a knowledge gap that necessitated back-and-forth communication during the review process. • A repository of internal knowledge management products, strategy documents, and audits both within and between components, managed by Component C, could help in retaining the institutional memory of CASA, spearheading the process of future CASA research.	• Component A and CASA TAF meetings have been restarted recently. • Component C has a mandate to capture and share lessons generated across components and has 7 learning papers for 2024/25.	• Component A and CASA TAF management teams; Component C

In addition to the recommendations set out above, CASA also explored three comparator programmes as suggested by the FCDO to draw lessons for mainstreaming climate change into its programmatic design and delivery. Of the three programmes[28] reviewed, ASAP (see Box 4) strikes out as the most relevant comparator for CASA, being a UK government-funded and IFAD-administered[29] transformative initiative spanning 42 projects in 41 countries[30]. Its core mission is to empower impoverished smallholder farmers to adapt to climate change impacts.

28. Adaptation for Smallholder Agriculture Programme (ASAP), Building Resilience and Adaptation to Climate Extremes and Disasters (BRACED) and LDC Initiative for Effective Adaptation and Resilience (LIFE-AR)
29. IFAD's Social, Environmental and Climate Assessment Procedures (SECAP)
30. Adaptation for Smallholder Agricultural Programme (ASAP)

Box 4: Adaptation for Smallholder Agriculture Programme (ASAP)

IFAD's Social, Environmental and Climate Assessment Procedures (SECAP) used in ASAP can provide a useful framework for CASA as the Programme's renewed aim to mainstream climate adaptation and resilience while mitigating its effects across the CASA Components resonates with ASAP. The following overarching areas highlight the complementarities from ASAP's SECAP:

Project Selection and Analysis: ASAP currently engages in dialogues with partner governments to determine project selection aligned with priorities (including on CCE). ASAP's use of SECAP can guide CASA to comprehensively analyse proposed projects to assess their social, environmental, and climate impact. This would ensure that CASA's initiatives align with the priorities and goals of the countries it operates in.

Climate Risk Assessment: SECAP's climate risk assessment methodology can be critical to CASA's project evaluation process. CASA can employ this methodology to identify vulnerabilities and assess how climate change affects different sectors, allowing for the targeted allocation of resources to projects that are most climate-resilient.

Capacity Building: Just as ASAP seeks to enhance smallholder capacity to manage climate risks, CASA can use SECAP to design capacity-building programmes for governments and local communities to better cope with climate-induced challenges (is this aligned to CASA's mandate?). This can include training on disaster preparedness, sustainable land management, and climate-smart agricultural practices.

Knowledge Sharing: CASA can leverage SECAP's knowledge documentation approach to systematically collect and share lessons learned from its interventions across the diverse value chains. This would enable CASA to contribute to a broader knowledge pool on climate adaptation and resilience-building, fostering collaboration among various stakeholders.

Scaling Up: Like ASAP, CASA can use SECAP to ensure that the interventions it supports have broader scaling and replication potential. This involves identifying successful practices within CASA projects that can be adopted by governments and other organisations beyond the initial implementation. One of the major risks associated with scaling up ASAP projects was around maladaptation, which could be used by CASA to avert similar risks.

The comparators reviewed had proactively incorporated climate-related considerations into their reporting. They assessed resilience by utilising proxy indicators, a pragmatic approach necessitated by the absence of an absolute measurement of resilience. This underscores the inherent challenge posed by the lack of consensus on what constitutes resilience. Climate-related reporting was not initially included as an obligation in the CASA design, leading to tension around the baseline and endline climate impact reporting for CASA. In response to these concerns, the revised MEL framework in 2022/2023 stated that the previously reported figures would remain valid, and the new approach would be used for reporting starting from the 2023 Annual Review. This allows robust reporting to capture the resilience derived from CASA's climate activities. This proactive approach should contribute to a more comprehensive assessment of CASA's climate impact.

Overarching Conclusions for FCDO General Audiences

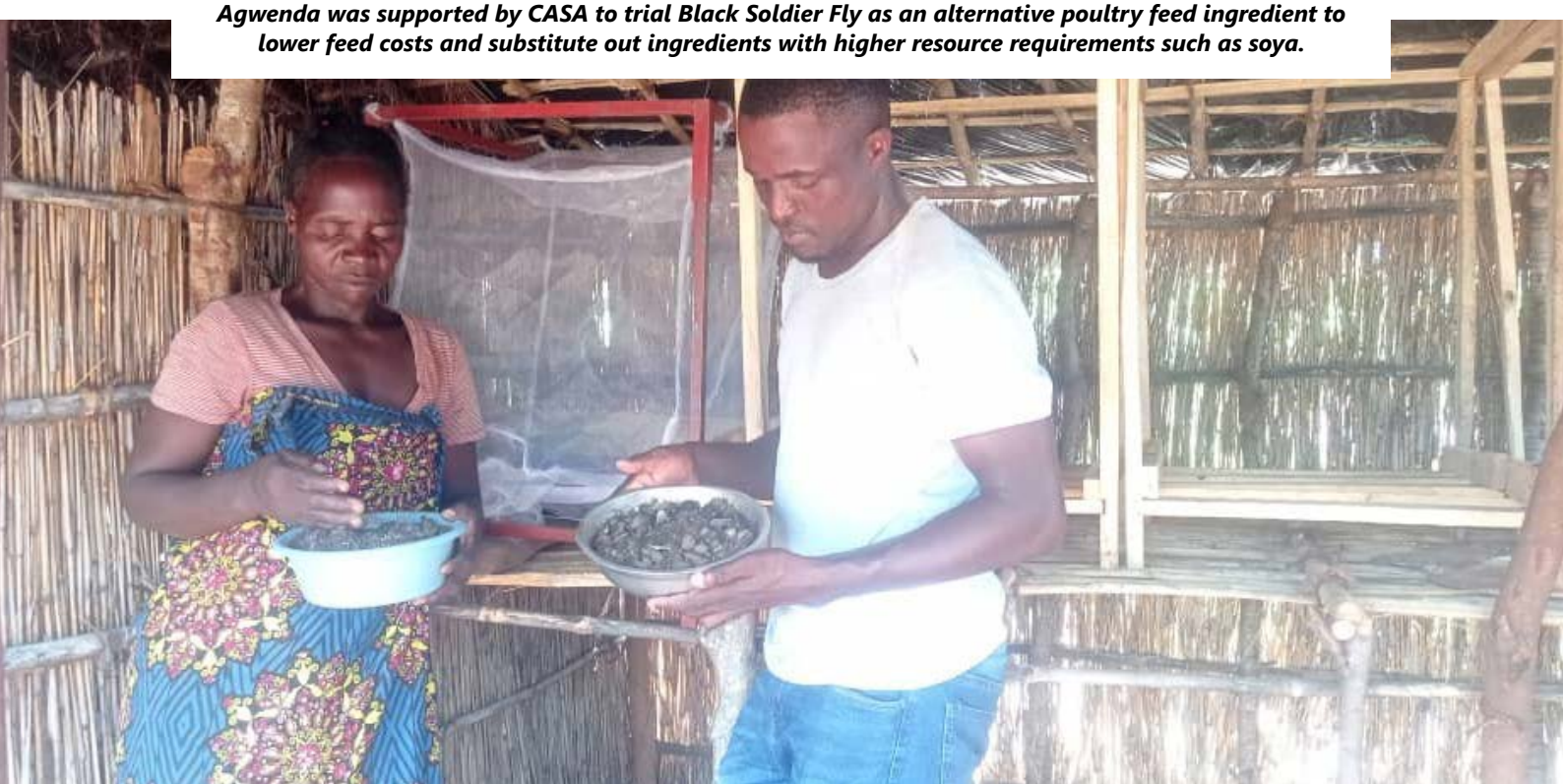
Mainstreaming climate change considerations into the CASA Programme signifies a critical turning point in its trajectory. Acknowledging the pervasive effects of climate change necessitates a deliberate integration of climate considerations throughout the programme, encompassing core elements like the logframe, reporting systems, and KPIs. As shown in Chapter 2, CASA had already (both intentionally and coincidentally) included positive climate activities in its interventions with SME partners across Component A and CASA TAF. However, despite these efforts, and as noted by previous FCDO reviews, there are substantial changes that could be made to further strengthen CASA's climate impact. To a large extent, as documented throughout this report, CASA has done well to pivot in several areas since late-2023. The recommendations of this report detailed above outline further opportunities for CASA to strengthen its climate work across all components.

Given the context that all agriculture programmes and investments should have an integral focus on both climate change and nature, this report provides learnings and recommendations on how new and existing programmes can deliver on that, using CASA as a case study example. The report offers evidence-based insights for FCDO audiences, to ensure an integral focus on climate change in all agricultural programmes and investments. Equally, the report adds to existing evidence on how private sector programmes and investments can support the delivery of climate resilience, adaptation and mitigation in climate-vulnerable contexts. In doing so, the report concludes with five recommendations on how new and existing programmes can deliver on climate:

- Programmes should have specific targets and KPIs to deliver on climate as they mandate the allocation of resources, and thus action, as well as meaningful data collection for learning and evidence.
- Programmes should embed climate risk assessments into decision-making processes to systematically identify and mitigate climate-related risks and enhance resilience of their agribusiness investments.
- Programmes should assign resources to engage in-country climate experts for inputs to intervention design and evaluation, as they are invaluable repositories of specialised knowledge and resources, which can maximise climate opportunities and minimise risks.
- Programmes should engage in strategic planning and investment with a view to long-term sustainability to empower smallholders and agribusinesses to navigate climate challenges.
- In parallel to streamlining logframe and reporting mechanisms, programmes should align their climate-related targets and indicators to the national climate change commitments laid out in the Nationally Determined Contributions (NDCs), National Adaptation Plans (NAPs) and local climate-development nexus policies on agriculture for target countries.

Incorporating climate considerations at the core of the CASA Programme is not just a strategic imperative but a proactive step toward a future where investments in smallholder agriculture go beyond economic benefits, contributing to more resilient and sustainable food systems in lower- and middle-income countries. This transition represents a transformative shift in the narrative of climate-sensitive agricultural development, aligning with the ambitions of the Paris Agreement[31] and Glasgow Climate Pact[32]. It emphasises the need for the design, delivery, assessment and reporting of adaptation actions in CASA programming to be country-driven, gender-responsive, disability-inclusive, participatory, and fully transparent.

Agwenda was supported by CASA to trial Black Soldier Fly as an alternative poultry feed ingredient to lower feed costs and substitute out ingredients with higher resource requirements such as soya.



ANNEX 1
ASSESSMENT OF NEPAL CLIMATE RELATED INTERVENTIONS

Intervention	Company	Monitoring & Data Collection	Intentional or Coincidental	Sector	Stage	Improved Efficiency	Improved Productivity	Protection of the Environment	Reduction of Imports	Reduction of GHGs	Climate Education & Awareness	Improved Climate Resilience & Adaptation	Junior Technical Assistants	Reduced Waste
Promotion of organic fertiliser as an alternative to rising chemical fertiliser price and its unavailability	National Biotech	Pre- and post-pH testing can measure success	Intentional	Vegetable	Pre-production	Y	Y	Y	Y	Y		Y		Y
Investment facilitation support for business expansion and marketing of quality vegetable seeds	Pabitra Seeds Company		Intentional and coincidental	Vegetable	Pre-production				Y		Y	Y		
Promoting value addition and strengthening linkages with output markets	Muktinath Krishi Company Private Limited		Intentional and coincidental	Vegetable	Production; Collection, Processing & Storage	Y	Y					Y	Y	
Promoting aggregation, value-addition, and strengthening linkage with output markets	Narti Cooperatives		Intentional and coincidental	Vegetable	Production; Supporting Functions	Y	Y	Y				Y	Y	
Promote, replicate, and expand improved business model to attract further investment	Paicho Pasal Private Ltd.		Intentional and coincidental	Vegetable	Production	Y	Y	Y				Y	Y	
Inclusion of Integrated Pest Management activities in interventions	Himalayan Supervores; Nepal Agricultural Cooperative Central Federation Ltd (NACCFL)	Usage of GeoKrishi and Kheti apps	Intentional	Vegetable	Production	Y								
Demo plots demonstrating to the farmers the use of climate smart technologies	Narti Cooperatives; National Biotech		Intentional	Vegetable	Production			Y			Y	Y		
Vegetable sector interventions with NACCFL	NACCFL	Food loss avoided was not estimated but could be in the future	Intentional	Vegetable	Collection, Processing & Storage	Y								Y
Bringing investment to support and expand vegetable packhouse	Himalayan Supervores Pvt Ltd.	Lack impact measurement	Intentional	Vegetable	Collection, Processing & Storage	Y				Y				Y
Investment facilitation for market expansion	Kheti Venture Pvt Ltd; Upaya City Cargo		Intentional	Vegetable	Transportation	Y				Y				Y

Intervention	Company	Monitoring & Data Collection	Intentional or Coincidental	Sector	Stage	Improved Efficiency	Improved Productivity	Protection of the Environment	Reduction of Imports	Reduction of GHGs	Climate Education & Awareness	Improved Climate Resilience & Adaptation	Junior Technical Assistants	Reduced Waste
Good agriculture practice trainings	Pabitra Seeds Company; Muktinath Krishi Pvt Ltd; Kheti Ventures; Pathway Tech; NACCFL		Intentional	Vegetable	Supporting Functions		Y				Y	Y	Y	
Promotion of the GeoKrishi and Kheti apps			Unknown	Vegetable	Supporting Functions	Y	Y					Y		
Promotion of forage based dairy production as an alternative to rising feed price	Goras Green Feed and Resource		Intentional	Dairy	Inputs	Y	Y	Y	Y	Y		Y		Y
Interventions to set up dairy plants			Unknown	Dairy	Production	Y				Y				
Interventions promoting good manufacturing practices and trainings			Intentional	Dairy	Production; Supporting Functions	Y	Y			Y	Y	Y		
Introduce shared logistics business model to improve procurement efficiency of dairy SMEs	Aarya Tara Private Limited		Intentional	Dairy	Collection, Processing & Storage	Y	Y			Y				Y
Improve product diversification and strengthen the dairy supply chain	S.K. Dairy	Audit through Rastriya Urja Dakshata Kendra Pvt. Ltd. concluded high effectiveness of the program: 31% electricity savings, 37% GHG reductions	Unknown	Dairy	Collection, Processing & Storage	Y				Y				
Development of a transportation system to collectively source milk from new markets		Analysis suggests enough attention has not been given to the accounting the baseline and impact	Intentional	Dairy	Transportation					Y				
Reduction in food loss waste and its proper management			Intentional	Dairy	Food Loss Waste and Management									Y

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