



**GREEN  
CLIMATE  
FUND**

**Meeting of the Board**  
10 – 13 July 2023  
In-person meeting

**Annex III, GCF/B.36/Inf.09**

10 – 13 July 2023

---

# LORTA Synthesis Report 2022

---

## **Summary**

This document provides a report of the key activities of the Learning-Oriented Real-Time Impact Assessment (LORTA) Programme of the Independent Evaluation Unit (IEU) for 2022. It reports on the programme's outputs, achievements, and learnings from the year.

## Table of Contents

I.	Background .....	3
II.	Progress and milestones in 2022 .....	4
2.1	Capacity building .....	4
2.2	Evaluation advisory services .....	4
2.3	Dissemination and outreach .....	5
III.	Portfolio .....	5
3.1	Portfolio by LORTA cohort and project location .....	6
3.2	Portfolio by implementing partner .....	7
3.3	Portfolio by theme .....	8
IV.	Learning in 2022 .....	9
V.	Learnings from GCF funded projects under LORTA .....	11
5.1	FP072 Zambia .....	15
5.2	FP069 Bangladesh .....	16
VI.	Effectiveness and impact of GCF investments on climate mitigation and adaptation .....	16
6.1	Findings from FP002 Malawi impact evaluation report .....	16
6.2	Measuring climate resilience .....	17

## I. Background

1. The IEU's Learning-Oriented Real-Time Impact Assessment (LORTA) programme uses best practices in theory-based impact evaluations to build feedback loops and measurement into GCF projects and programmes.
2. LORTA has supported a range of project and programme teams to acquire skills and competencies that can be applied to project design, implementation and evaluation.
3. The primary objectives of LORTA are threefold:
  - (a) Strengthening the capacity of accredited entities (AEs) for impact assessments
  - (b) Supporting the generation of an evidence base for the GCF about the impact of GCF investments
  - (c) Disseminating lessons learnt in real-time to the GCF ecosystem
4. The following activities are provided by LORTA:
  - (a) Capacity building: The IEU builds capacity within GCF-funded projects/programmes to design and embed impact evaluations and measuring systems into these projects/programmes that provide project teams and managers with high-quality data on the effectiveness of implementation and likelihood of impact, while helping them to manage and ensure that the attributable causal change of GCF investments is maintained.
  - (b) Evaluation advisory services: The IEU provides advisory services on how project teams can conduct or manage impact evaluations and impact measurement systems, by employing state-of-the-art, theory-based, counterfactual methods to measure the causal change attributable to GCF investments.
  - (c) Measuring impact: The IEU measures the impact of the GCF-funded project/programmes by gauging what works and to what extent, through causal analysis. In particular, impact assessment is used to assess innovations, to test causal pathways and delivery mechanisms, and to inform strategic decisions to scale up or make course corrections.
  - (d) Dissemination to foster wider learning: The IEU engages impact evaluation designs using theory-based counterfactuals to provide results of the GCF-funded projects/programmes, and to report on the implementation challenges and opportunities of the projects/programmes and the LORTA programme, as a learning mechanism of the GCF. The IEU also provides annual syntheses of lessons learnt from the implementation of real-time measurement systems alongside the implementation of GCF-funded projects/programmes.
5. The IEU has been expanding the portfolio of the LORTA programme since its inception in 2018, not only to generate evidence about what works, but also to enhance learnings about the design, implementation and management of real-time measurement systems and impact evaluations within the GCF ecosystem.
6. To date, the LORTA programme has engaged with around 50 GCF-funded project teams who have benefited from capacity building sessions and technical assistance in conducting impact evaluations. In 2022, the IEU onboarded two new projects (SAP040 Brazil and CN Armenia) into the LORTA programme. The next section presents the programme's overall achievements and the progress made by each project.

## II. Progress and milestones in 2022

7. In 2022, the IEU LORTA programme continued to guide, assist and advise the impact assessment for a selection of GCF funded projects. Learnings from the LORTA programme can be applied to improve the quality of funding proposals, the adequate budgeting of funding activities, and to build in foresight for project implementation. The lessons from the LORTA programme can also be applied to strengthen and support the review processes and adaptive management of the GCF funded projects.

### 2.1 Capacity building

8. As part of LORTA's ongoing effort to support AEs within its portfolio, the team actively engaged and interacted with entities and project teams online and in person through country visits. For example, country missions were conducted in Paraguay in November and Madagascar in October, to support the data collection process of impact evaluations and to provide project monitoring and evaluation services. Such support was provided in-country, besides collective capacity building workshops which were delivered both online and in-person.

9. **Workshops:** Annual Impact Evaluation Design workshop (July 2022) and Data Collection and Analysis Workshop (December 2022)

(a) In July 2022, the LORTA team completed its Annual Impact Evaluation Design workshop with over 15 direct access entities (DAEs), one international access entity (IAE) (United Nations Development Programme (UNDP) Bhutan), and more than 60 participants. As in earlier years, topics covered in this year's workshop included the concept of an impact evaluation, how to construct a project's theory of change (TOC) and outcome indicators, how to track a project's progress in real-time, and how to design an impact evaluation. Several guest speakers were invited to share their experiences from impact evaluations across climate, development, and peacebuilding interventions. These speakers represented institutions including Abdul Latif Jameel Poverty Action Lab (J-PAL), International Security and Development Center (ISDC) and the Food and Agriculture Organization of the United Nations (FAO).

(b) In December 2022, the LORTA team also held an in-person workshop in Ethiopia, which focused on data collection and data analysis. Nine country teams which have finalized impact evaluation designs and are in the data collection phase participated in the workshop, improving the capacities of 27 participants. During the workshop, information was shared on data collection processes, implementation and monitoring, and how to conduct data cleaning and analysis. Participants were able to share with each other their project experience, and under the guidance of a specialist explored how information from the workshop applied to their respective projects.

### 2.2 Evaluation advisory services

10. LORTA's technical advisory work aims to support approved GCF projects to build independent, high quality and useful measurement and data systems. Advice is provided in terms of impact evaluation methodology, data collection methods and statistical analyses.

11. The LORTA programme has supported AEs in embedding the impact evaluation designs of interventions, while ensuring that AEs have full ownership of evaluation designs and reports. Moreover, the programme also supports AEs in analyzing collected data for the impact

evaluation, which includes the provision of technical support for data analysis and producing baseline, midline or endline reports.

12. The programme made substantial progress in terms of the design and implementation of impact assessments in 2022 – four impact assessments were designed, two rounds of household data were collected, and two baseline reports were finalized.

**Table 1: List of 2022 LORTA evaluation advisory services**

Design	Data collection	Analysis and reports
SAP023 Mexico (FMCN)	<b>Midline data</b>	<b>Two baseline reports</b>
FP138 Senegal (BOAD)	FP026 Madagascar (CI)	FP072 Zambia (UNDP)
FP172 Nepal (AEPC)		FP069 Bangladesh (UNDP)
FP060 Barbados (IUCN)	<b>Endline data</b>	
	FP069 Bangladesh (UNDP)	

Source: IEU LORTA database, as of 6 June 2023.

Note: Letters in parentheses represent the project AEs.

## 2.3 Dissemination and outreach

13. Findings from the LORTA-supported impact evaluation in Malawi (UNDP, FP002) were submitted to the Food Policy academic journal.<sup>1</sup> This publication contributes to existing, but rather scarce evidence in the climate adaptation and mitigation space. In addition, the IEU has presented the findings of the Malawi impact evaluation in hybrid events to the GCF Secretariat, the GCF ecosystem and other stakeholders in relevant fora such as gLOCAL Evaluation Week in June 2022, and at the What Works Global Summit and the National Evaluation Capacities Conference, both held in October 2022.

## III. Portfolio

14. Since 2018, the programme has onboarded 25 GCF projects, equivalent to around 10 per cent of all approved GCF projects. Two projects were dropped due to implementation challenges. LORTA currently has seven projects in the engagement and design stage, seven in baseline, eight projects in post-baseline stages, and one completed project. The status and phase of each project is summarized in Table 2.<sup>2</sup>

**Table 2: LORTA project portfolio status and phase**

	Country/region	Engagement/design	Baseline	Post-baseline stage	Results and dissemination
<b>1st cohort (entered in 2018)</b>	FP002 Malawi				X
	FP035 Vanuatu		X		
	FP026 Madagascar			X	
	FP062 Paraguay		X		
	FP034 Uganda			X	

<sup>1</sup> “Scaling up the use of Modernized Climate information and Early Warning Systems in Malawi” project.

<sup>2</sup> Additional information about the current portfolio can be found in Table 7.

	Country/region	Engagement/design	Baseline	Post-baseline stage	Results and dissemination
	FP068 Georgia			X	
	FP072 Zambia			X	
2nd cohort (entered in 2019)	FP096 DRC	X			
	FP069 Bangladesh			X	
	FP073 Rwanda			X	
	FP087 Guatemala			X	
	FP097 Central America	X			
	FP098 Southern Africa	X			
3rd cohort (entered in 2020)	FP101 Belize		X		
	FP110 Ecuador		X		
	SAP010 Philippines		X		
	FP116 Kyrgyzstan	X			
4th cohort (entered in 2021)	FP172 Nepal		X		
	SAP023 Mexico		X		
	FP138 Senegal	X			
	FP060 Barbados			X	
5th cohort (entered in 2022)	CN Armenia	X			
	SAP040 Brazil	X			

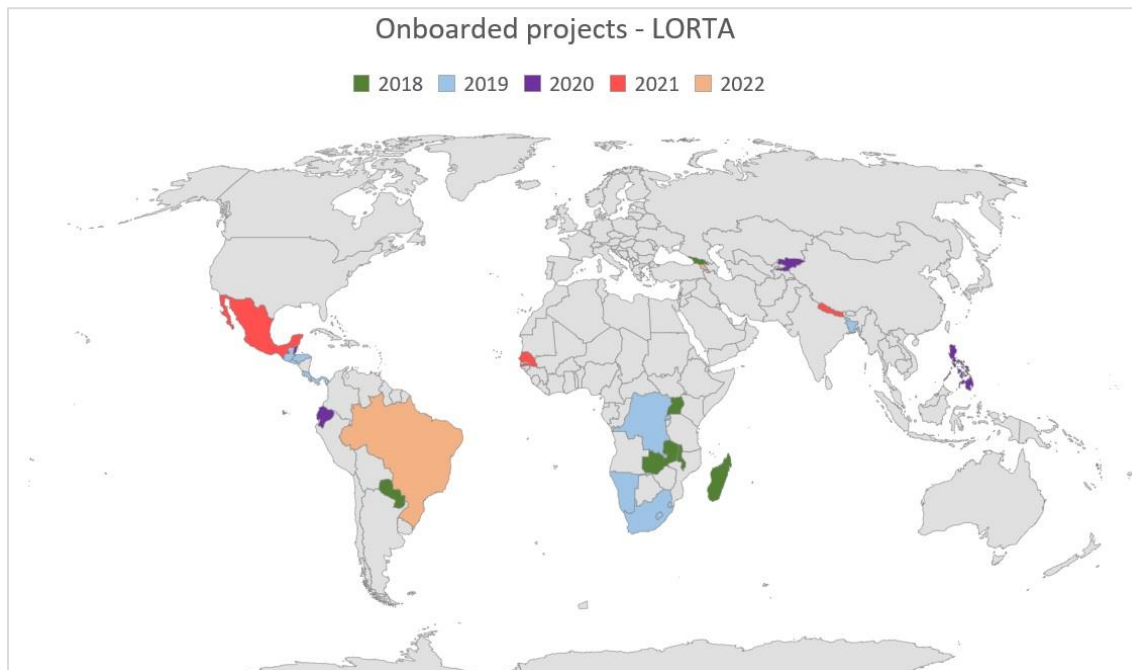
Source: IEU LORTA database, as of 6 June 2023.

Note: While the LORTA programme initially included these projects, the projects FP028 Mongolia (1st cohort in 2018) and FP108 Pakistan (3rd cohort in 2020) are no longer considered under LORTA.

### 3.1 Portfolio by LORTA cohort and project location

15. As of 2022, the current LORTA portfolio holds 23 GCF funded projects worldwide. The below figure illustrates when these projects were onboarded onto the LORTA programme, and their geographical locations. Since its inception in 2018, the LORTA programme has achieved a well-balanced regional distribution of projects. There are currently eight projects in Africa, five in the Asia-Pacific region, eight in Latin America and the Caribbean, and two in Eastern Europe.

**Figure 1: World overview of LORTA projects**



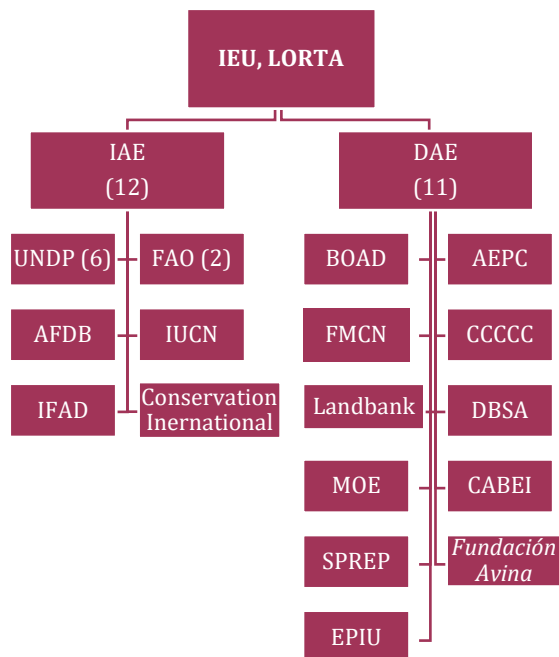
Source: IEU LORTA database, as of 6 June 2023.

Note: The figure shows the geographic distribution of GCF funded projects under the LORTA programme. The colour legend represents the year LORTA projects subscribed to the programme.

## 3.2 Portfolio by implementing partner

16. The LORTA portfolio has achieved a balanced representation of both IAEs and DAEs, as can be seen in Figure 2 below. This balanced distribution ensures diverse perspectives and experiences, contributing to the overall success and effectiveness of the programme.

**Figure 2: List of LORTA working partners**



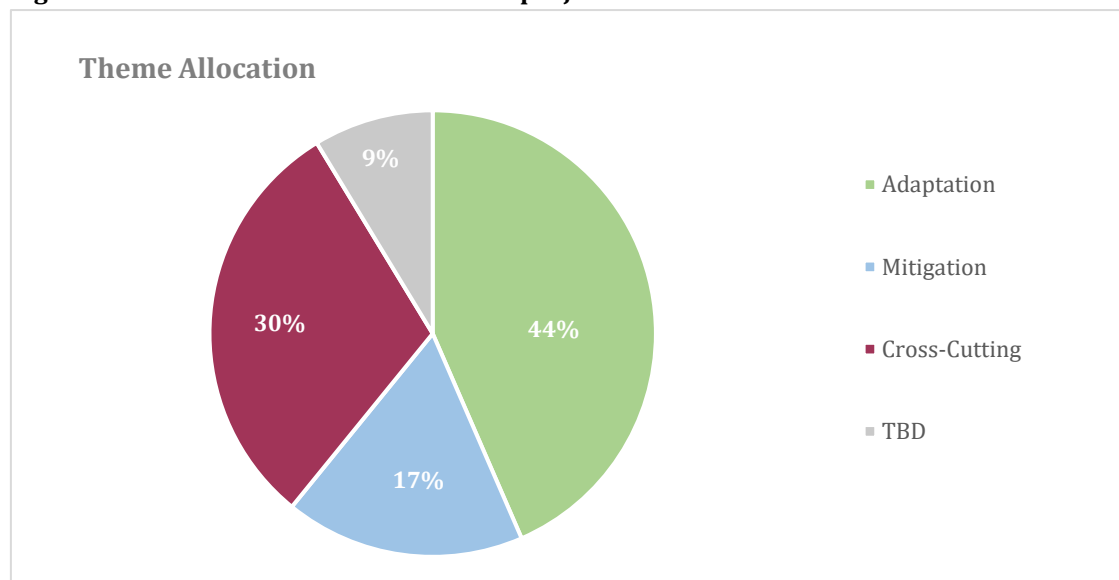
Source: LORTA Impact Evaluation Portfolio.

Note: (#) indicates the number of projects managed by each entity if the number is above one. For example, UNDP has six projects with LORTA.

### 3.3 Portfolio by theme

17. Out of the 23 projects in the LORTA portfolio, the majority fall under the adaptation category (10), followed by cross-cutting (7), mitigation (4), and those still to be determined (TBD) (2).

**Figure 3: Theme allocation of onboarded projects**



Source: IEU LORTA database, as of 6 June 2023.



Note: The LORTA programme includes two projects, CN Armenia and SAP040 Brazil, onboarded in 2022 after the 2022 Annual Impact Evaluation Design workshop. These two projects are currently under consideration for the Board approval process, thus their thematic allocation has not yet been confirmed.

## IV. Learning in 2022

18. The LORTA cycle follows closely the implementation cycle of GCF funded activities. This leads to certain dependencies – the implementation challenges facing project teams affect the work of the LORTA team, as well. These challenges include delays in field activities, procurement delays, challenges with stakeholder engagement, and lack of capacity, all of which are also highlighted in other GCF documents, such as the Annual Portfolio Performance Report 2021 (GCF/B.34/Inf.11/Rev.01).

19. Travel opportunities remained limited in 2022 due to continued disruption from the COVID-19 pandemic. Although most of the technical support and activities offered by LORTA were delivered through virtual platforms, the LORTA team gradually resumed its in-person country visits and organized an in-person workshop in the second half of 2022. Lessons from engaging with the AEs in 2022 include the following:

- (a) **Learning 1. In-person interaction is a must for some of LORTA's activities. Grounding the findings in the context of the project is key.**
- (i) LORTA enables long-term engagement with implementing partners from the inception to the closure of a GCF project to assess its impacts. Political transitions, changes in governments, and turnover in staff in implementation partner teams are common over the course of a project cycle. In addition, each time there is a change in focal point, there is a need for new engagement and buy-in from stakeholders, as well as for the LORTA team to explain the background and objectives of LORTA again to the new focal point.
  - (ii) Country missions and face-to-face interactions were effective in re-building relationships with key stakeholders, and especially in obtaining buy-in from relevant government agencies to conduct impact assessments, which was not as successful when virtual meetings were held in the period of COVID-related travel restrictions.
  - (iii) After more than two years of virtual engagement, we held an in-person workshop in Addis Ababa in December 2022 by bringing together nine projects (Bangladesh, Belize, Georgia, Madagascar, Mexico, Paraguay, Philippines, Rwanda, and Uganda). It was a data collection and analysis capacity development workshop covering the development of a high-quality survey instrument, data collection in the field, and data cleaning and analysis. The participants gave positive feedback and noted they found the sharing of knowledge and experience useful. Participants were able to share information and project related insights through the workshop sessions as well as through informal conversations over breakfast, coffee breaks and dinner.
  - (iv) LORTA is a programme, but at the same time it helps the concertation of stakeholders to foster a culture of impact evaluation among climate project practitioners and to generate evidence from GCF funded projects. A lack of opportunities for knowledge sharing and dissemination was identified as a challenge in one of the GCF Board documents. LORTA not only provides relevant technical assistance but also offers a platform for development partners to share

their experiences and learnings. Virtual platforms have proven to be effective for some activities, such as knowledge dissemination; however, to enable rigorous engagement and in-depth discussion, in-person interaction is found to be much more effective. Therefore, the LORTA team has adopted a hybrid approach and offers both virtual and in-person support for the onboarded GCF projects to maximize project and programme impact.

- (b) **Learning 2. Timely mid-course correction or restructuring is key to effective project implementation and impact assessment.**
- (i) Many GCF-funded projects undergo some form of adjustment; both minor project changes and major restructuring are common. In the wake of the COVID-19 pandemic, many projects experienced some implementation delays, and these may result in the extension of projects to achieve stated targets and objectives. Annual progress reports are first a reporting tool, but could also be understood as a risk management tool by some stakeholders and the Secretariat itself. The midterm and endline evaluation reports are currently the only results-reporting and management tools. LORTA, through its data collection efforts and more direct and timely interaction with AEs, is filling this gap. For example, at the project level, when real-time implementation tracking shows that there are too few eligible beneficiaries in a project area, project teams have to respond and come up with a solution or alternative approach to reflect the reality on the ground.
  - (ii) It is important to make necessary changes throughout the project cycle to achieve project objectives. Needless to say, restructuring or changes to the project design require valid justification and evidence. LORTA's real-time implementation tracking can provide robust evidence, and thus, helps to guide project teams through this process.
  - (iii) Given its setup, the GCF may be far from project implementation, both physically and administratively. With the management of GCF funded activities done by AEs, there may be several layers of actors between the GCF Secretariat and project beneficiaries. This may be particularly true for IAEs with local offices in the country, regional offices besides their global headquarters.
  - (iv) Some delays in the implementation stage are found to be associated with delays in project approval, lack of timely feedback, and poor communication between the GCF Secretariat, project teams and implementing entities. Measurement systems for impact assessments and impact assessment design at the start of a project may provide a solution. A study by the World Bank finds that investment-level implementation risk is lower for development projects with impact evaluation. It may be too early to conclude the same for LORTA-supported GCF funded projects. Nevertheless, with the growing size and maturity of the LORTA portfolio, a similar analysis could be made about LORTA and GCF investments if real-time impact assessments are shown to have a significant impact on implementation risks through more timely delivery and closing the gap between the planned and executed disbursement period over the implementation cycle.
- (c) **Learning 3. Early engagement with new projects has some advantages but some drawbacks too. There is no one-size-fits-all approach for impact assessments.**

- (i) Every year, LORTA hosts an Impact Evaluation Design Workshop for GCF-funded projects. In the past, a group of selected GCF projects was invited to this design workshop. In 2022, the LORTA team extended the invitation to a small number of projects in their pre-approval stage (e.g. CN stage) to start early engagement with project teams concerned about the design and development of impact assessments in their project.
- (ii) Early LORTA engagement may also strengthen the project teams' understanding of the importance of impact measurement and assessments in the design and development of funding proposals. The Impact Evaluation Design Workshop covers topics such as the TOC, project impact indicators, budgeting, ethics, evaluation standards, evaluation methods, and why and how we design and implement impact evaluations.
- (iii) Some sessions of the Impact Evaluation Design Workshop show a particularly close linkage between considerations of impact/learning and the overall developing and refining of their FPs. For example, the LORTA team reviews the TOC and log frame carefully, identifies gaps in the logic, and assesses data types and indicators, through an evaluation lens. The LORTA team also reflects together with the project teams on the local context and evaluability of the project. These exercises may contribute to the project teams' capacities to improve the quality of submitted FPs.
- (iv) Early LORTA engagement was also successful in managing the expectations of AEs by clarifying roles and responsibilities. Experience suggests that early engagement helps AEs to prepare better funding proposals with an evaluation lens, and more realistic budget plans for conducting rigorous evaluations; however, the general time lag between engagement and the effectiveness/implementation of projects remains a challenge for the LORTA programme. The GCF project appraisal process and funded activity agreement (FAA) negotiations have a direct effect on the commencement of LORTA-related activities.
- (v) Closer collaboration with the GCF Secretariat is key for the success of the LORTA programme. The IEU engages with the Secretariat during Annual Impact Evaluation Design workshop, particularly in the selection process of potential project candidates for the LORTA programme.

## V. Learnings from GCF funded projects under LORTA

20. By the end of 2022, the LORTA programme conducted baseline data collection in six GCF funded projects (Bangladesh, Georgia, Guatemala, Madagascar, Rwanda, and Zambia), one endline data collection for a GCF project in Malawi, and published five baseline reports and one impact evaluation (IE) report. Summary statistics of baseline, midline and endline data are presented in Table 3 and Table 4 below.

**Table 3: Summary statistics of data collected at baseline**

	Country				
	Baseline				
	FP069 Bangladesh	FP072 Zambia	FP026 Madagascar	FP087 Guatemala	FP073 Rwanda
Sample size	3,120	2,508	2,730	1,486	1,299
Sample size of treatment group	2,000	1,218	1,822	758	651
Sample size of control group	1,120	1,290	908	728	648
Unit of observation	Household	Household	Household	Household	Household
Date of data collection	Sep – Oct 2021	Nov – Dec 2020	Mar – May 2019	May – Jun 2021	Jun – Sep 2020
Population of interest	66,171 households living in project areas – 2 coastal districts out of 64 districts in Bangladesh	All eligible households from the 16 (out of total of 116 districts of Zambia) districts in agro-ecological zones I and II	23,800 households, including members of COBA/VOI, women’s associations and PAPs groups around the two protected areas CAZ and COFAV	Households in the area of 48 micro watersheds in the intervention zone	All households living in private dwellings in the 18 sectors of the Gicumbi district (18 out of 21 sectors)
Sample coverage	39 out of 143 <i>Union Parishads</i> (UPs) across 5 <i>Upazilas</i> in 2 districts: Khulna (2/9 <i>Upazilas</i> , 21 UPs) and Satkhira (3/7 <i>Upazilas</i> , 18 UPs)	1,433 villages across 5 out of 10 provinces in Zambia	45 out of 73 municipalities around the two protected areas: CAZ (total of 28 municipalities) and COFAV (total of 45 municipalities)	The area of intervention – recharge areas of four watersheds, and 21 micro watersheds  14 micro watersheds outside of the area of intervention	126 villages out of 252 villages in the Gicumbi district

Source: LORTA baseline reports.

Abbreviations: COBA/VOI = community in charge of locally natural resources management; PAPs = associations of local people affected by the creation of protected areas; CAZ = Ankeniheny-Zahamena Forest Corridor protected area; COFAV = Ambositra Vondrozo Forest Corridor protected area.

**Table 4: Summary statistics of data collected at midline and endline**

	Country		
	Midline	Endline	
	FP026 Madagascar	FP069 Bangladesh	FP002 Malawi
Sample size	1,634	2,817	1,644
Sample size of treatment group	806	1,777	810
Sample size of control group	828	1,040	834
Unit of observation	Household	Household	Household
Date of data collection	Nov 2022	Nov 2022	Oct 2020
Population of interest	2,730 households from the baseline data	3,120 households from the baseline data	Smallholder households in 21 districts out of a total of 28 in Malawi
Sample coverage	Regions covered during the baseline data collection	2,817 out of 3,120 households from the baseline data	8 districts (4 treatment and 4 control group)  1,799 households from the baseline data collection

Source: LORTA database, as of 6 June 2023; Impact Evaluation Report for FP002 Malawi.

21. One of the purposes of carrying out baseline data collection for impact assessment is to identify pre-existing patterns and possible differences between treatment and control groups. Assessing the extent of similarity between the two groups allows us to determine the validity of our proposed strategies to identify the impacts of the programme. Table 5 presents a list of modules used for data collection for the six impact evaluations.

22. Overall, the descriptive evidence so far coming from the collected baseline data confirms the suitability of GCF project activities to the local context and needs of the target population. In addition, the balance tests – to check whether treatment and control groups are different in a systematic way – show that on average the treatment and comparison groups are similar. If the two groups are indeed similar on average, any differences arising after the interventions can be attributed to those interventions. In this section we present the findings from two baseline surveys, Zambia and Bangladesh.

**Table 5: Baseline and endline survey questionnaire modules for six IEs**

	Module	Bangladesh	Guatemala	Madagascar	Rwanda	Zambia	Malawi
1	Household characteristics and demographics	X	X	X	X	X	X
2	Socio-economic characteristics	X	X	X	X	X	X
3	Food security	X	X	X	X	X	X
4	Nutrition and food diversity	X		X		X	X
5	Agricultural production		X	X	X	X	X
6	Livelihood activities	X	X	X	X	X	X
7	Water security and accessibility	X	X		X		
8	Insurance	X			X		X
9	Coping strategies for climate change		X	X	X	X	X
10	Perception of climate change	X	X	X	X	X	X
11	Early warning system and climate information experience		X		X		X
12	Social capital and infrastructure	X			X	X	
13	Specific project components under IE	X	X	X	X	X	X

Source: IEU LORTA baseline, endline reports.

- Module 1 was used to collect information on the number of people in each household, head of household, their age, gender, education and occupation.
- Module 2 was used to gather information on the economic status of households, such as income, financial assets, livestock assets, and access to credit. It also includes information on the availability of basic services such as healthcare, level of education, and sanitation.
- Module 3 was used to collect data on food security, which refers to availability, access, use and stability in supply of food.
- Module 4 was used to collect data on the types of food consumed by households, the frequency of consumption, and the sources of food.
- Module 5 was used to collect information on the agricultural practices and crops grown by households, as well as their income-generating activities outside of agriculture.
- Module 6 was used to collect information on sources of income and livestock-related activities.
- Module 7 captured the availability of water sources, the quality of water, and the distance and time required to access water.
- Module 8 captured information on insurance such as availability of insurance, knowledge of insurance, and experience of receiving reimbursement.
- Module 9 was used to collect information on coping strategies for managing the effects of climate change or hazards such as reducing non-food expenses, increasing savings, and other coping strategies.
- Module 10 was used to collect information on the awareness of climate change, climate-related hazards, and the adverse effects on livelihood activities due to climate change.
- Module 11 included information on the availability and effectiveness of early warning systems for weather-related hazards, as well as the experience of communities in receiving and using climate information.
- Module 12 was used to collect data on the social networks and community organizations in the study area, as well as the infrastructure available for transportation, communication, and other services.

- Module 13 focused on the beneficiaries' participation in implementing project activities, such as trainings, and use of interventions, which could be used to assess the impacts of the project interventions between treatment and control groups.

## 5.1 FP072 Zambia

23. In November 2020, the LORTA team collected baseline data for the “Strengthening climate resilience of agricultural livelihoods in agro-ecological regions I and II in Zambia” project (SCRALA). In total the survey team interviewed 1,218 households in the treatment group and 1,290 in the control group, from 15 districts.

24. The project objective is to improve food security and income generation by promoting climate-resilient farming and diversification practices, as well as to enhance access to markets and foster the commercialization of climate-resilient agricultural commodities.

25. The focus of the impact assessment is specifically on component 2 of the project, “alternative livelihood activities”, that is the distribution of beehives and goats. In total, the project distributed 1,520 beehives and 14,000 goats in the target districts through a public lottery.

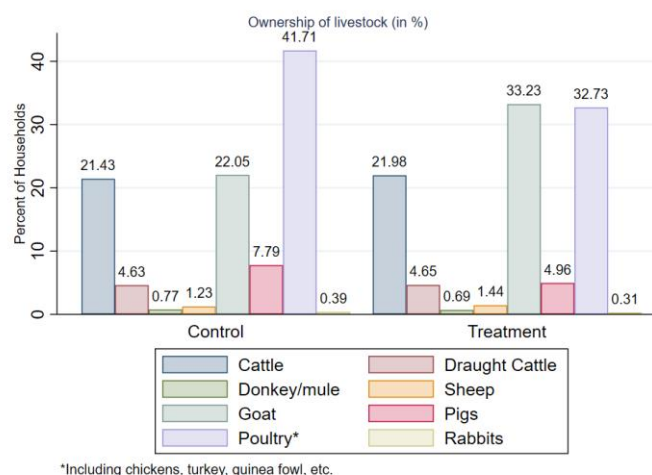
26. The baseline data highlighted significant differences between treatment and control households across indicators including expenditure, asset ownership, and food consumption. One explanation could be the timing of the baseline survey. Due to logistical challenges caused by unfavourable weather, there were delays in the data collection process. This meant that 60 per cent of treatment households received the intervention before the baseline survey was completed. Since goats and beehives are considered to impact beneficiary households promptly for their relatively immediate realization into economic goods, such differences between treatment and control groups suggest an idea that GCF-funded activities are reaching the target population on the ground, who are vulnerable and food insecure.

27. As mentioned above, baseline data is used to assess similarities between treatment and control groups and its gathering is usually conducted before the implementation of intervention. The early distribution of the inputs makes it difficult to distinguish the original characteristics of the treatment group from the short-term impact of the inputs. If these differences between the two groups are not accounted for, they can potentially mitigate the impact of project intervention.

28. The follow up data collection for this project is planned for 2025. It takes time to measure the impact and sustainability of investments on climate-resilient agricultural practices, climate resilience, food security and dietary diversity. The LORTA team will address the observed differences from the two groups, if necessary, by employing back up impact evaluation strategies, keeping track of the progress of implementation and collecting additional data during the endline data collection.



**Figure 4: Ownership of livestock type among project beneficiaries**



Source: Impact evaluation baseline report for FP072.

## 5.2 FP069 Bangladesh

1. In 2021, the LORTA team conducted a baseline survey in Bangladesh, covering 3,120 households for the project “Enhancing adaptive capacities of coastal communities, especially women, to cope with climate induced salinity”. One of the key components of the project under impact evaluation is providing drinking water solutions to target communities and households.

2. The baseline survey revealed that about 90 per cent of households did not have access to water sources within their compounds. Moreover, on average, household members spent a total of 5.5 hours per week collecting water. It is often a woman’s responsibility to provide the family with safe drinking water, an outcome supported by baseline data collected in the target area. With more than 75 per cent of respondent households answering that only female members were involved in fetching water, this project largely targets female participants. The large amount of time spent collecting water reduces the time available for other activities, including opportunities to engage with other economic activities.

3. When estimating the impact of the drinking water component, in addition to the access-to-water solutions and time spent on fetching water, the LORTA team is therefore interested in analyzing how this investment transformed the time allocation and lives of the project beneficiaries, especially women. The endline data was collected in late 2022 and the final impact assessment report will be available in 2023.

## VI. Effectiveness and impact of GCF investments on climate mitigation and adaptation

### 6.1 Findings from FP002 Malawi impact evaluation report



4. In 2022, the LORTA programme published an impact evaluation report for the GCF country project “Scaling up the use of modernized climate information and early warning systems in Malawi”. The objective of the project was to reduce vulnerability to climate change impacts on lives and livelihoods, particularly those of women, from extreme weather events and climate change. One of the components of the Malawi project is Participatory Integrated Climate Services for Agriculture (PICSA).

5. PICSA is a training-based intervention intended to empower farmers in making informed agricultural and livelihood decisions based on accurate, location-specific climate and weather information and the use of tools for participatory discussions.

6. The impact evaluation report provided the first causal findings of the impact of PICSA on the farmers’ adaptation decisions and food security. The LORTA team relied on baseline and endline household surveys which were collected before the start of the programme and two years after the first implementation.

7. Overall, the findings indicate that the PICSA intervention was successful in improving both intermediate and long-term outcomes. In particular, the analysis found significant and positive impacts on the use of seasonal forecasts to plan farm decisions, changes to crop activity, maize yields and an increase in wellbeing in terms of a reduction in work on other farms.

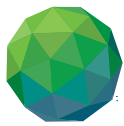
## 6.2 Measuring climate resilience

8. The LORTA impact evaluations aim to measure the impact of climate interventions on various indicators. Measuring climate resilience is one of the key impact indicators for the ongoing efforts of the LORTA team. Climate resilience encompasses abilities to forecast, prepare for and respond to negative impacts related to climate and thus it cannot be measured with a sole, simple indicator. Through the baseline and endline data collection, the LORTA team collected information on climate resilience by using diverse indexes that comprised multiple indicators. Table 6 presents different indexes and scales that the LORTA data collection team collected at baseline and endline to measure and assess climate resilience.

9. The LORTA team is interested in employing comprehensive indicators and generating credible data on climate resilience and the impacts of GCF funded projects.

**Table 6: Climate resilience indexes and scales**

	Bangladesh	Zambia	Madagascar	Guatemala	Rwanda	Malawi
Indexes and scales	Household Food Access Scale Food Consumption Score Household Income Stability Household Resilience to Shocks	Coping Strategy Index Food Consumption Score The Livelihood and Asset-based Coping Strategy	Climate Change Vulnerability Index	Resilient and Diversified Livelihoods Index Responsiveness Index	Coping Strategies Index Climate Resilience Index	Food Security Household Dietary/Food Diversity Score Climate Information



	Bangladesh	Zambia	Madagascar	Guatemala	Rwanda	Malawi
	Household Food Insecurity Access Scale Score	Food-based Coping Strategy				

Source: IEU LORTA baseline, endline reports.

**Table 7: List of current LORTA Portfolio**

Project ID	Country/region	Related sector	Climate topic	AE	Milestone	Onboarding year
FP068	Georgia	Climate information and early warning system	Early warning system	UNDP	Implementation	2018
FP026	Madagascar	Agriculture and food security Ecosystems and ecosystem services	Smart agriculture, forest protection	Conservation International	Implementation	2018
FP002	Malawi	Climate information and early warning system	Climate information and adaptive livelihoods	UNDP	Academic publication	2018
FP062	Paraguay	Forest and land use	Reforestation	FAO	Implementation	2018
FP034	Uganda	Ecosystems and ecosystem services	Wetlands and sustainable livelihoods	UNDP	Implementation	2018
FP035	Vanuatu	Climate information and early warning system	Climate information	SPREP	Implementation at pause	2018
FP072	Zambia	Agriculture and food security	Agricultural livelihoods	UNDP	Implementation	2018
FP069	Bangladesh	Agriculture and food security Water security	Agricultural Livelihoods, water security	UNDP	Implementation	2019
FP097	Central America	Ecosystems and ecosystem services	Biodiversity friendly MSMEs	CABEI	Inception at pause	2019
FP087	Guatemala	Ecosystems and ecosystem services	Watershed management, climate smart agriculture	IUCN	Implementation	2019
FP096	DRC	Energy access and power generation	Renewable energy	AfDB	MoU	2019

Project ID	Country/region	Related sector	Climate topic	AE	Milestone	Onboarding year
FP073	Rwanda	Agriculture and food security	Watershed protection and adaptive livelihoods	MOE	Implementation	2019
FP098	Southern Africa	Energy access and power generation	Renewable energy	DBSA	Implementation	2019
FP101	Belize	Agriculture and food security	Smart agriculture	IFAD	Implementation	2020
FP110	Ecuador	Forest and land use	REDD-plus reforestation	UNDP	Implementation at pause	2020
FP116	Kyrgyzstan	Energy access and power generation	Natural resources management	FAO	MoU delayed	2020
SAP010	Philippines	Climate information and early warning system	Early warning system	Landbank	Implementation	2020
FP060	Barbados	Water security	Adaptive livelihoods, water security	CCCCC	Implementation	2021
SAP023	Mexico	Forest and land use	Ecosystem	FMCN	Implementation	2021
FP172	Nepal	Energy access and power generation	Clean cooking solutions	AEPC	FAA	2021
FP138	Senegal	Energy access and power generation	Renewable energy	BOAD	Inception at pause	2021
CN	Armenia	TBD	TBD	EPIU	Pre-approval	2022
SAP040	Brazil	TBD	TBD	Fundación Avina	Pre-approval	2022

Source: LORTA database.

## Abbreviations

AfDB	African Development Bank
AEPC	Alternative Energy Promotion Centre
BOAD	West African Development Bank
CABEI	Central American Bank for Economic Integration
CCCCC	Caribbean Community Climate Change Centre
CI	Conservation International Foundation
CN	Concept note
DAE	Direct access entity
DBSA	Development Bank for Southern Africa
DRC	The Democratic Republic of the Congo
EPIU	Environmental Project Implementation Unit, State Agency of the Ministry of Nature Protection, Armenia
FAO	Food and Agriculture Organization of the United Nations
FMCN	Fondo Mexicano Para La Conservación De La Naturaleza A.C.
FP	Funding proposal
GCF	Green Climate Fund
IAE	International Accredited Entity
IE	Impact evaluation
IEU	Independent Evaluation Unit
IFAD	International Fund for Agricultural Development
ISDC	International Security and Development Center
IUCN	International Union for Conservation of Nature
J-Pal	Abdul Latif Jameel Poverty Action Lab
LORTA	Learning-Oriented Real-Time Impact Assessment
MOE	Ministry of Environment of Rwanda
MoU	Memorandum of understanding
MSME	Micro, small- and medium-sized enterprise
SPREP	South Pacific Regional Environment Programme
UNDP	United Nations Development Programme

---