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LEARNING-ORIENTED REAL-TIME IMPACT ASSESSMENT (LORTA) PROGRAMME

Synthesis Report – 2020

LEARNING-ORIENTED REAL-TIME IMPACT ASSESSMENT (LORTA) PROGRAMME

SYNTHESIS REPORT – 2020 (PHASE I AND PHASE II)

DECEMBER 2020



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This will be filled once the final version of the synthesis report is developed.

ABBREVIATIONS

AE	accredited entity
C4ED	Center for Evaluation and Development
CABEI	Central American Bank of Economic Integration
CAMBio II	Productive Investment Initiative for Adaptation to Climate Change (CAMBio II)
CBEWS	community-based early warning schemes
CBCRM	community-based climate risk management
CCAG	climate change adaptation groups
CCT	conditional cash transfers
CLFF	Climate Finance Facility
CI	climate information
COBA	communauté de base
CRA	climate-resilient agriculture
CSA	climate-smart agriculture
DAP	data analysis plan
DBSA	Development Bank of Southern Africa
DiD	difference-in-differences
DRT	development results template
EAP	early action protocols
EWS	early warning system
FAO	Food and Agriculture Organization of the United Nations
FbA	forecast-based early actions
GCF	Green Climate Fund
GHG	greenhouse gas
IE	impact evaluation
IEU	Independent Evaluation Unit
IFI	intermediary financial institution
IUCN	International Union for Conservation of Nature
LORTA	Learning-Oriented Real-Time Impact Assessment
M&E	monitoring and evaluation
MHEWS	multi-hazard early warning system
MH-IBF-EWS	Multi-Hazard Impact-Based Forecasting and Early Warning System
MIS	management and information system

MSME	micro, small and medium-sized enterprises
NDA	national designated authorities
NGO	non-governmental organization
OEU	operations evaluation unit
PICSA	Participatory Integrated Climate Services for Agriculture
PMU	project management unit
PKSF	Palli Karma Sahayak Foundation
PROEZA	Poverty, Reforestation, Energy and Climate Change Project
PSM	propensity score matching
RCT	randomized controlled trial
RE	renewable energy
SOP	standard operating procedures
SLEM	The Sustainable Landscapes in Eastern Madagascar
ToC	theory of change
ToR	terms of reference
TUHF	Trust for Urban Housing Finance
UNDP	United Nations Development Programme
WFP	World Food Programme

I. THE LORTA PROGRAMME

A. Important elements of the IEU's LORTA programme

In 2018, the Independent Evaluation Unit (IEU) of the Green Climate Fund (GCF) started the multi-year Learning-Oriented Real-Time Impact Assessment (LORTA) programme to keep track of the impact of GCF investments. The goal is to measure if GCF projects lead to lower greenhouse gas (GHG) emissions and enhanced resilience to climate change, and if so, by how much. This can be measured with the help of rigorous impact assessments. Empirical evidence on impacts of climate-related projects is rather scarce, which adds to the importance of this programme.

The LORTA programme has two particular aims:

- Embedding real-time impact evaluations (IEs) into approved projects so that GCF project managers can quickly access accurate data on the quality of implementation and likelihood of impact
- Building capacity within projects to design high-quality data sets, which aid the measurement of causal change and impact

The LORTA programme not only informs on the returns of GCF investments, it also helps GCF projects track implementation fidelity. To do so, LORTA incorporates state-of-the-art approaches for measuring results and informing effectiveness and efficiency into funded projects. It employs mixed-methods approaches that involve quantitative and qualitative data collection methods and analysis. Theory-based counterfactual impact assessments are based on experimental or quasi-experimental research designs; real-time measurement systems and qualitative data help project teams measure progress in implementation and provide rapid lessons even during early stages of the projects.

It is envisioned that GCF-funded projects will be enabled to increasingly use theory-based IEs. The purpose of these evaluations is to

measure the change in key result areas of the GCF that can be attributed to project activities. In sum, LORTA has the following objectives:

- Measuring the overall change (outcome or impact) of GCF-funded projects and enhancing learning
- Understanding and measuring results at different parts of theories of change (ToCs)
- Measuring the GCF's overall contribution to catalysing a paradigm shift and achieving impacts at scale

The IEU contracted the Center for Evaluation and Development (C4ED) for consultancy services to develop IE designs for selected GCF projects and to provide relevant technical advice and quality assurance throughout the IE phases. This is always carried out as a collaborative effort between the IEU, C4ED, accredited entities (AEs), project teams and other stakeholders. Therefore, an important pillar of LORTA is the buy-in of AE and project staff into the overall idea of incorporating causal designs and theory-based IEs.

B. Phases of LORTA

LORTA is organized in three phases.

- Phase I – formative engagement and design: The LORTA programme supports GCF-funded projects to build high-quality, theory-based IE designs. Formative work is conducted, which includes engagement with AEs and project teams, with the final output of this phase being a design for a theory-based IE for each project.
- Phase II – impact assessment: The second phase of LORTA involves the main impact assessment stage (2–5 years) and includes support to the project teams on collecting high-quality data to be used for the IE in the form of surveys, qualitative interviews, project monitoring tools and secondary data. The support from the LORTA programme specifically includes technical advice in setting up real-time implementation tracking and measurement

systems, quality checks for data collection and data analysis conducted by others, and data analysis of baseline, midline and endline data.

- Phase III – final data analysis and feedback: The final stage involves the final IE analysis (both qualitative and quantitative), discussing results and engaging with diverse stakeholders to share results and incorporate feedback as required.

The first Phase I period was completed in 2018, with eight projects undergoing formative research and the result being an IE design for each project. Of these eight initial projects, seven moved on to Phase II in 2019, during which necessary data for the IE are collected or compiled, project activities are implemented and the project teams are supported to ensure the highest quality of data, both in terms of measuring outcomes to be achieved and tracking the implementation of project activities. In 2019, the LORTA team added six new projects to the LORTA portfolio, of which all transitioned to Phase II in 2020.

In 2020, a third cohort of six projects entered LORTA and currently undergoes Phase I. Six projects from 2018 plus the six further projects from 2019 continue in Phase II of LORTA, while one project from the 2018 cohort has already transitioned to Phase III.

II. PHASE I: FORMATIVE WORK

A. Selection process of projects for LORTA in 2020

The virtual LORTA Design Workshop

The third LORTA Design Workshop was again organized by the IEU and C4ED. Due to the COVID-19 pandemic, the 2020 LORTA workshop had to be postponed several times and finally it was decided that it will not be held in person. Instead, a digital form of the workshop, consisting of different parts stretched over a period of eight weeks, was discussed and a format was agreed on. It took place from 21 September to 16 November

2020 over a video-conferencing platform.

Participants were representatives from different divisions within the GCF, including the IEU, IE specialists from C4ED and other entities, as well as representatives of AEs, implementing partners and project staff from 16 GCF-funded projects.

The workshop consisted of different elements and capacity-building measures using various digital formats, such as a live webinar every week, a learning video for each topic covered in the webinar, additional reading material as well as weekly online breakout group sessions.

The results of the workshop were manifold:

- First, project representatives were introduced to the concept of IE and why it is important.
- Second, workshop participants were able to increase their knowledge about IEs while being introduced to different IE methods (especially randomized and quasi-experimental designs) and learning about their implementation in practice.
- Third, project representatives were given the opportunity to critically discuss viable IE designs for their respective project, under the guidance of experienced and qualified IE specialists.
- Forth, workshop participants were equipped with the knowledge to be able to apply the lessons learned to their own projects beyond the scope of the workshop.
- Fifth, a shortlist of suitable GCF-funded projects was identified from among those present for which IE designs will be developed in the remaining 2020/2021 inception and engagement phase of the LORTA programme.

Decision-making process

The 16 projects were assessed with the help of a scorecard to determine their eligibility for LORTA by taking into account the following strategic criteria and guiding principles:

- **Feasibility of IE design:** The project, or at least a sub-component of the project

must have the potential to be rigorously evaluated.

- **Buy-in from AE:** Project selection takes the commitment of AE to conducting a theory-based, rigorous IE into account. Support from the AE and the project team is essential during all phases of LORTA.
- **Budget:** The project needs to be aware of the budget implications of an IE and be willing to make sufficient budget available to conduct a data collection of a representative scope.
- **Level of innovation for LORTA:** The LORTA Phase I 2020 seeks to add innovative projects to the overall LORTA portfolio, which complement the project selection already part of LORTA.
- **Level of innovation for GCF and the climate change space:** The evidence gained from the IEs of the selected projects should be innovative to enlarge the learning within GCF and the global research on climate change.

Directly after the LORTA design workshop, staff members of the IEU and C4ED held a virtual meeting to discuss the evaluability and emerging IE designs of the 16 projects. Following the meeting, the IEU consulted with relevant divisions of the GCF Secretariat to build consensus regarding the most appropriate and eligible projects for the LORTA programme against the criteria above. Discussions from these consultations were synthesized to inform the final deliberation of shortlisted projects.

The following six projects were considered to be eligible for LORTA and to enter the next level – that is to be subject to formative work in preparation of IEs:

1. *FP048: Climate-Smart Agriculture (CSA) Risk Sharing Facility for MSMEs (Guatemala and Mexico)*

2. *FP116: Carbon Sequestration through Climate Investment in Forests and Rangelands in Kyrgyz Republic (CS-FOR)*

3. *SAP007: Integrated Climate Risk Management for Food Security and Livelihoods in Zimbabwe focusing on Masvingo and Rushinga Districts*

4. *SAP008: Extended Community Climate Change Project-Flood (ECCCP-Flood) (Bangladesh)*

5. *SAP010: Multi-Hazard Impact-Based Forecasting and Early Warning System for the Philippines*

6. *SAP011: Climate-resilient food security for women and men smallholders in Mozambique through integrated risk management*

B. Engagement with project teams and key stakeholders

For each of the selected projects, an evaluation team will be formed, usually consisting of one or two researchers from C4ED and one member of the IEU. The overarching task of these teams, referred to as “LORTA teams” in this report, is to further develop the IE design discussed during the workshop for each project. To date, no field mission has been conducted yet. The timing for the field mission depends on the status of the project. For four projects, the field mission is planned for Q1 2021, while the two remaining projects are currently still in their very early stages, so their field missions will likely be postponed to mid-2021. The preliminary field mission schedule is presented in Table 1.

The task of the LORTA teams will be to engage closely with key stakeholders of the selected GCF-funded projects before, during and after the field missions of Phase I. The principal stakeholders are the national designated authorities (NDAs), AEs, implementing agencies, GCF task managers and potential project end beneficiaries. Ensuring their interest, understanding and feeling of ownership for the planned theory-based impact assessments is one of the

objectives of the close engagement. The strong cooperation of stakeholders, initiated and constantly supported by the IEU, will be crucial for the following steps of the LORTA programme.

Benefiting from the close engagement between the LORTA teams and the key stakeholders/ project teams, the next task will be the refinement of IE designs for each of the selected GCF-funded projects. The LORTA teams will conduct context analyses, examine the existence of appropriate counterfactuals, assess administrative and secondary data sources and discuss the ToCs.

Overall, key to the choice of an appropriate evaluation method will be the design and implementation schedule of the selected GCF-funded projects. For example, outcome variables have to correspond to the project timing and mirror the time-horizon (e.g. short-term outcomes can be measured quickly after implementation of a project, whereas long-term outcomes can only be measured a certain time after project finalization). Again, the importance of buy-in and ownership on the part of the implementation partners has to be taken into account, as well as the need to respectfully strive for a balance between strong evaluation designs and requirements for implementation.

Table 1 *Field mission schedule (2021)*

COUNTRY	LORTA TEAM	TIME PERIOD
Mexico/Guatemala	TBD	TBD
Zimbabwe	TBD	Q1 2021
Bangladesh	TBD	Q1 2021
Mozambique	TBD	Q1 2021
Kyrgyzstan	TBD	TBD
Philippines	TBD	TBD

C. Summaries of evaluation questions, designs and timelines

FP048: Mexico and Guatemala

The goal of the project “Climate-Smart Agriculture (CSA) Risk Sharing Facility for MSMEs” is to deliver tailored financial instruments and services to individual farmers and MSMEs working in the CSA in Mexico and Guatemala. It aims to encourage the take-up of agroforestry practices in order to increase resilience to climate-related risks, including notably droughts, flooding in lowlands, and rainfall. The project addresses financial services gaps by providing support to financial intermediaries in who will deliver financial instruments to promising agro-forestry enterprises that demonstrate environmentally sustainable practices.

The AE for this project is the Inter-American Development Bank (IDB), who will establish a risk sharing facility proposing support to MSMEs. The implementing partners include the Multilateral Investment Fund (MIF) and additional financial intermediaries.

The main questions to be answered for the evaluation of the project’s effectiveness and impact are as follows:

- Is the programme distributing loans and technical assistance?
- Does finance increase climate smart technology adoption and usage?
- Does adoption lead to increases in productivity?
- Does adoption increase profit and reduce traditional technologies?
- Does finance decrease deforestation?
- Does finance increase resilience to climate change and shocks?

The evaluation design developed for the project’s financial and technical assistance part is a multi-arm design. There are 60,000 potential beneficiaries of financial support and 25,000 potential beneficiaries of technical assistance. This design allows for understanding the differential impacts of the

different interventions and support offered. Among the eligible beneficiaries, 4 groups will be identified as seen below:

1. MSMEs that get a loan and technical assistance (1,000 MSMEs)
2. MSMEs that get technical assistance (1,500 – 2,000 MSMEs)
3. MSMEs in comparison group that has loans (1,000 MSMEs)
4. MSMEs in comparison group without loans and technical assistance (1,500 – 2,000 MSMEs)

For instance, it will be possible to compare group #3 to group #1 to measure the marginal effect of technical assistance on top of a loan. Group #4 can be compared to #2 to measure the total effect of technical assistance. Group #4 can also be compared to group #1 to determine the total effect of loans and technical assistance.

The possibility of an RCT is conditional on the level of demand of financial services as the randomization would require oversubscription. This would imply to design an effective large-scale sensitization campaign to promote the support offered. It will also depend on the collaboration of financial intermediaries with the IE team to coordinate data collection before the supply of financial support. If oversubscription is not reached and a close collaboration with financial intermediaries do not enable to collect pre-treatment data, the team could implement a quasi-experimental method (note that this does not affect the multiple-treatment design). Unlike in experimental designs, in the case of a quasi-experimental design, selection is not random. In this case, the challenge is to build a believable counterfactual group. This can be done with a matching approach and can potentially be combined with a difference-in-difference (DiD) design.

The exact timeline for data collection will be discussed during the field mission.

FP116: Kyrgyzstan

The goal of the project “Carbon Sequestration through Climate Investment in Forests and Rangelands in Kyrgyz Republic (CS-FOR)” is to shift from a local economy that is currently negatively impacting on carbon storage potential of ecosystems (forest and rangelands) to a low-carbon emission economy where mitigation investments will trigger and enhance resilience of ecosystems as well as of communities.

There are three main components to the project:

- 1) Evidence-based Strengthening of Natural Resources Management (NRM) Governance,
- 2) Green Investments for Forest and Rangeland Rehabilitation,
- 3) Climate-sensitive Value Chains Development.

The AE for this project is the Food and Agriculture Organization (FAO).

Implementing partners are the State Agency for Environment Protection and Forestry, the Russian Community Development and Investment Agency and the Russian-Kyrgyz Development Fund.

The main evaluation question to be answered is:

- Did the project improve the lives of the target population in terms of income, assets or health?

The evaluation strategy proposed is - in the ideal case – a random selection of treatment village clusters stratified by the three regions in which the program is operating based on a phase-in design. It will not be possible to treat all villages at the same time due to resource constraints and project set-ups. Hence, the approach of randomly selecting a first cohort to be treated, seems natural. Cohorts which receive the treatment at a later stage may then function as control group. However, the actual feasibility of pure randomization needs to be verified in the ongoing political process of project set-up and implementation. If pure randomization will prove infeasible, matching approaches potentially combined with DiD or

Regression Discontinuity Design (RDD) designs based on vulnerability scores of the conducted feasibility study are still very favorable second-best options.

The baseline data collection is envisioned to be conducted in summer 2021 and the endline in summer 2023. Sufficient funding of the IE is not yet guaranteed and needs to be further discussed.

SAP007: Zimbabwe

The project “Integrated Climate Risk Management for Food Security and Livelihoods in Zimbabwe focusing on Masvingo and Rushinga Districts” aims to support the long-term adaptation of vulnerable, food insecure households to the effects of climate change and variability. The project has three complementary components of which component 2 and 3 are most relevant for the IE.:

- 1) Strengthening capacity and systems to support national and community adaptation and management of climate risks based on climate forecasts and information.
- 2) Increasing the adaptive capacity of food insecure households through community-based asset creation and risk transfer.
- 3) Enhancing the investment capacity of smallholder farmers to sustain climate-resilient development gains.

The AE for this project is the World Food Programme (WFP). The NDA is the Ministry of Lands, Agriculture, Water, Climate & Rural Resettlement (MoLAWCRR).

The following evaluation questions have been formulated during the LORTA workshop and will be refined in the inception phase:

- Do households experience higher food security?
- Have households increased their resilience to climate change?
- Are farmers less dependent on on-farm agriculture?
- Has the support provided to farmers improved their investment capacity?

- Did targeted farmers achieve higher crop yields?
- Has the support provided to targeted farmers improved their agricultural practices and farming management?
- Have farmers increased their adaptive capacity?
- Have farmers increased their absorptive capacity?

The evaluation strategy proposed to evaluate the impact of Component 2 and 3 as a whole (“comprehensive IE”) is a DiD design with matching to measure the combined impact of the trainings, the insurance and asset creation activities. To evaluate the impact of the insurance product on the livelihoods of the target population (“insurance IE”) a random encouragement design is suggested, in which communities are randomly assigned to different levels of subsidies in the second and third year. It is proposed to implement both IE designs in parallel.

The baseline data collection will take place in 2021 and the endline data collection will start in 2024 and run until 2026.

SAP008: Bangladesh

The project “Extended Community Climate Change Project-Flood (ECCCP-Flood)” aims to increase the resilience of the poor, marginalized and climate vulnerable communities to the adverse effects of climate change in flood-prone areas of Bangladesh, through capacity building, the building of resilient household structures, water and sanitation infrastructure, and the promotion of climate-adaptive livelihoods. The project is based on four interlinked components:

- 1) Creation of climate change adaptation groups (CCAG) and community vulnerability assessment,
- 2) Building resilient household structures,
- 3) Installation of resilient utilities,
- 4) Resilient livelihood support. The AE for this project is the Palli Karma-Sahayak Foundation (PKSF), and the implementing partner is the

Economic Relations Division of the Ministry of Finance.

The IE tries to answer the following evaluation questions:

- Do CCAGs contribute to increase knowledge on climate change adaptation?
- Does raising homestead plinths and reinforcing houses allow beneficiaries to continue business as usual during floods?
- Does raising homestead plinths and reinforcing houses allow beneficiaries to improve the social status of beneficiaries?
- Does the incidence of water-borne diseases among targeted households decline?
- Does the installation of tube-wells and latrines improve the health, well-being and food security of beneficiaries?
- Does the promotion of resilient agricultural technology and crops, and the facilitation of livestock-rearing in slatted houses, improve the food security and well-being of beneficiaries?

The suggested design is a clustered phase-in RCT. The basic idea of a phase-in is that groups of beneficiaries will receive treatment at different points in time. In addition, the design is “clustered” because project activities will be implemented for *groups* of households. The main limitation of the phase-in design relates to the evaluation horizon set by the project implementation. In particular, the lag between the various phases of the implementation will determine the types of outcomes one can realistically expect to react sufficiently in the corresponding timeframe.

The baseline data collection will take place in 2021 while the endline data collection will be conducted in 2022.

SAP010: Philippines

The project “Multi-hazard Impact-Based Forecasting and Early Warning System for the Philippines” aims to strengthen the country’s ability to adapt to climate shocks, through the establishment of Multi-Hazard Impact-Based Forecasting and Early Warning System (MH-

IBF-EWS), supported by a knowledge and decision support system and empowering national and local capacities for early action and forecast based financing. It has the following four main components:

1. Generation of science-based multi-hazard weather and climate risk information
2. Establishment of MH-IBF-EWS supported by a knowledge and decision support system
3. Improved national and local capacities in implementing a people-centered MH-IBF-EWS and forecast-based early actions (FbA)
4. Mainstreamed climate risk information and MH-IBF-EWS in development policy and planning, investment programming and resilience planning at national and local levels and institutionalized people-centered MH-IBF-EWS

The project's AE is the Land Bank of the Philippines.

The evaluation question related to component 3 is the following:

- Are the Early Action Protocols (EAPs), FbA and standard operating procedures (SOPs) the needed activities/ outputs that will result to preparedness of national and local administrations for implementing people-centered forecast and early action financing?

The design suggested is a DiD combined with matching. The baseline data collection for IE will start in the end of 2021 and the beginning of 2022, while the endline data collection will take place in the end of 2025 and beginning of 2026.

SAP011: Mozambique

The overall goal of the project “Climate-resilient food security for women and men smallholders in Mozambique through integrated system-based risk management” is to reduce food insecurity by fostering resilience to climate change-induced shocks. The target population are women and men smallholders in Mozambique. The project consists of three complementary components:

- 1) Reduce vulnerability to climate risks through promotion of climate-resilient agriculture (CRA), as well as watershed restoration and enhancement, for food insecure smallholder women and men.
- 2) Enhance and sustain adaptive capacity of smallholder women and men through a combination of context-specific, integrated risk management tools and market-based opportunities.
- 3) Inform adaptation planning and decision-making across smallholders, communities and national/local authorities through the generation and use of climate information (CI).

The AE for this project is the WFP, implementing partners are the Ministry of Agriculture and Food Security, the Ministry of Land, Environment and Rural Development, and FAO.

The evaluation questions relating to component 2 along with the respective indicators that will enable to measure impact are as follows:

- Have farmers increased their investment capacity?
- What is farmers' uptake of insurance and retention?
- Have farmers increased the productivity of their farming activities?
- Have households increased their income and have they become less dependent on farm agriculture?
- Do households experience higher food security?
- Have households increased their resilience to climate shocks?

The design defined during the 2020 LORTA conference in collaboration with the project team is a clustered Randomized Controlled Trial (RCT) using a factorial design. The design exploits the implementation plan of the project, which aims to roll out component 2 interventions to all villages in a phased-in way. One farmer club will be established per village and that the eligible villages are homogeneously divided into four groups. Nonetheless there are some limitations to the

IE, which relate to the evaluation timeline set by the project implementation. In particular, the effects of the insurance coverage are expected to be much more sustained in the actual occurrence of a climate shock triggering a payout. Indeed, it is uncertain whether this will occur or not during the one-year period available for the evaluation of this intervention.

The baseline data collection in group 1, 2 and group 4 villages will be conducted in 2021 and the endline data collection in group 1 and group 4 villages in 2023.

Table 2 Summary of impact evaluation designs of projects started in 2020

PROJECT N°	PROJECT NAME	COUNTRY	AE	EVALUATION DESIGN	EVALUATION QUESTIONS
FP048	Climate-Smart Agriculture (CSA) Risk Sharing Facility for MSMEs	Mexico/ Guatemala	IDB	RCT likely not feasible, alternative: DiD with matching	<ul style="list-style-type: none"> • Is the programme distributing loans and technical assistance? • Does finance increase climate smart technology adoption? • Does adoption lead to increases in productivity? • Does adoption increase profit and reduce traditional technologies? • Does finance increase adaptation and decrease deforestation?
FP116	Carbon Sequestration through Climate Investment in Forests and Rangelands in Kyrgyz Republic (CS-FOR)	Kyrgyzstan	FAO	Phase-in design with random selection (alternative: Matching with DiD or RDD)	<ul style="list-style-type: none"> • Did the project improve the lives of the target population in terms of income, assets or health?
SAP007	Integrated Climate Risk Management for Food Security and Livelihoods in Zimbabwe focusing on Masvingo and Rushinga Districts	Zimbabwe	WFP	DiD design with matching; Random encouragement design	<ul style="list-style-type: none"> • Do households experience higher food security? • Have households increased their resilience to climate change? • Are farmers less dependent on on-farm agriculture? • Has the support provided to farmers improved their investment capacity? • Did targeted farmers achieve higher crop yields? • Has the support provided to targeted farmers improved their agricultural practices and farming management? • Have farmers increased their adaptive capacity? • Have farmers increased their absorptive capacity?

SAP008	Extended Community Climate Change Project-Flood (ECCCP-Flood)	Bangladesh	PKSF	Clustered phase-in RCT	<ul style="list-style-type: none"> • Do CCAGs contribute to increase knowledge on climate change adaptation? • Does raising homestead plinths and reinforcing houses allow beneficiaries to continue business as usual during floods? • Does raising homestead plinths and reinforcing houses allow beneficiaries to improve the social status of beneficiaries? • Does the incidence of water-borne diseases among targeted households decline? • Does the installation of tube-wells and latrines improve the health, well-being and food security of beneficiaries? • Does the promotion of resilient agricultural technology and crops, and the facilitation of livestock-rearing in slatted houses, improve the food security and well-being of beneficiaries?
SAP010	Multi-hazard Impact-Based Forecasting and Early Warning System for the Philippines	Philippines	Landbank of the Philippines	DiD with matching	<ul style="list-style-type: none"> • Are the EAPs, FbA and SOPs the needed activities/ outputs that will result to preparedness of national and local administrations for implementing people-centered forecast and early action financing?
SAP011	Climate-resilient food security for women and men smallholders in Mozambique through integrated system-based risk management	Mozambique	WFP	RCT using a factorial design	<ul style="list-style-type: none"> • What is the overall impact of the program on resilience and food security? • What is the impact of different level of subsidies on insurance uptake, retention and use?

III. ACTIVITY REPORT FOR PHASE II PROJECTS

A. A. Summary of impact evaluation design

FP002: Malawi

The goal of the project “Saving Lives and Protecting Agriculture-Based Livelihoods in Malawi: Scaling Up the Use of Modernized Climate Information and Early Warning Systems” is to save lives and enhance livelihoods at risk from climate-related disasters through modernizing the early warning system (EWS) and creating new CI products that will help increase resilience of the most vulnerable communities. During the LORTA mission in 2018, it became clear that the Participatory Integrated Climate Services for Agriculture (PICSA) programme was the only suitable sub-component of the project for an IE. PICSA is a multi-level training scheme, which aims at teaching farmers to make informed decisions based on accurate, location-specific climate and weather information, in particular on how to choose locally relevant crop, livestock and livelihood options. UNDP Malawi and a research team at the University of Reading lead the implementation and monitoring and evaluation (M&E) of PICSA.

Although the roll-out of PICSA had not yet taken place at the time of the LORTA mission, extension officers had already selected lead farmers for the PICSA trainings. In the selection of lead farmers, extension officers considered – among other criteria – gender, literacy, motivation and the ability to successfully reproduce the training for contact farmers. As a result of such purposive selection, the proposed IE design focuses on a quasi-experimental approach.

The evaluation design exploits the fact that – in a given extension planning area of a PICSA district – the PICSA intervention is rolled out only in a given subset of sections. However,

due to the participatory nature of the PICSA approach and the expected interaction among farmers within and outside PICSA sections in the treated districts, a high degree of spillovers is assumed. For this reason, the establishment of a comparison group in geographically separated districts was considered necessary. This comparison group was sampled from those four districts that are only planned to be treated in or after 2020.

Because of the non-random selection of PICSA beneficiary farmers, the IE design follows a quasi-experimental methodology. The design defined in the LORTA design report, combined a DiD methodology with propensity score matching (PSM). The methodology was later revised based on the actual baseline data: the DiD technique is no longer considered suitable due to the lack of a number of indicators (e.g. access to seasonal forecasts, food-security) and due to pitfalls in the measurement of indicators at baseline (e.g. adaptation practices, yields) in the baseline dataset. The updated methodology is entirely based on the use of the PSM technique.

FP026: Madagascar

The Sustainable Landscapes in Eastern Madagascar (SLEM) project aims to 1) enhance the resilience of smallholder farmers, 2) reduce GHG emissions from deforestation, and 3) invest in CSA and renewable energy (RE). The sustainable landscape measures consist of a portfolio of activities, among which two will be the focus of the IE: adaptation and mitigation activities. Adaptation activities include the provision of trainings, inputs and technical assistance to smallholder farmers in order to promote conservation agriculture practices and alternative sources of livelihood. Regarding mitigation activities, the project plans to provide training, per diems and equipment to physically demarcate the limits of protected forest areas and to patrol these areas. Mitigation activities started in November 2018 throughout the project implementation area.

The first implementation phase of adaptation activities started in July 2019, during which inputs and equipment were distributed. Field staff will provide continuous technical support to beneficiary communities until the end of the project and additional inputs will be delivered in 2021.

The proposed IE methodology follows a mixed-method approach that combines quantitative and qualitative data analysis, with a stronger focus on the quantitative part. A cluster randomized phase-in will serve for the identification of the short-term effects of the adaptation activities of the SLEM project. For the estimation of longer-term impacts, a DiD approach combined with PSM will be used. A similar approach using Geographic Information System (GIS) data on land cover will allow to assess the impact of mitigation activities on changes in land use and GHG emissions. Additional qualitative data will be collected in the form of key informant interviews (KIIs) and focus group discussions (FGDs). The complementary qualitative analysis will help to further understand for whom and why interventions work or do not work and to assess the gender sensitivity of the SLEM interventions.

a. Short-term impacts of adaptation activities: Phased-in cluster RCT

A cluster randomized phase-in is an experimental design that relies on the randomization of the order in which eligible local associations (called Communauté de Base, COBA) receive adaptation activities. COBA randomly assigned to a later phase serve as the comparison group until they start receiving the interventions. More specifically, this IE design will focus on the first and third phases of rollout with a total of one-and-a-half years between completed intervention and evaluation.

b. Long-term impacts of adaptation activities: DiD with PSM

To estimate longer-term impacts of adaptation activities, the IE will turn to a quasi-experimental design as an informative, though

less robust, complementary strategy. The DiD approach estimates project effects through the comparison of changes in outcomes over time between beneficiaries and a comparison group. As every COBA located in the intervention area will ultimately benefit from the project, the comparison group will be composed of households in communities where no COBA exists. The LORTA team selected comparison communities based on the expertise and local knowledge of the project team and using PSM on available secondary data. Because the formation of COBA and membership are not random, beneficiaries and the comparison group are expected to differ at baseline. The LORTA team plans to identify these initial differences in observable characteristics between COBA members and the comparison group and match beneficiaries with non-beneficiaries using PSM. Then, changes in outcomes between the two groups will be compared, acknowledging potential remaining initial differences.

c. Impact of mitigation activities

All COBA of the project implementation area started to receive mitigation activities already in November 2018. A quasi-experimental IE design will therefore be used for this component. The main analyses will be based on satellite imagery using PSM and regression methods.

FP034: Uganda

The project “Building Resilient Communities, Wetland Ecosystems and Associated Catchments in Uganda” focuses on the adaptation to climate change via an increased resilience of the local ecosystems and communities. The project is a comprehensive undertaking that focuses on improving human living conditions of communities residing around wetland areas, while restoring biodiversity in functioning wetland systems and catchment areas. The project consists of the three components of 1) physically restoring the wetlands, 2) introducing alternative livelihood opportunities and 3) implementing a

CI system. As a result of consultations during the LORTA mission, only the first two components are considered feasible for an impact evaluation.

The final evaluation design hinges on the mapping of 54,000 ha of wetlands that are to receive the intervention package. Project implementation is meant to be rolled-out in a staggered from 2021 until 2024, as part of the evaluation, while the project implementation itself prior to that will be excluded from the evaluation. The mapping is necessary to determine the vulnerability of each wetland system and catchment area, and to identify the exact nodes within the system, where the restoration efforts should be located. The execution of the intervention at all these exact points would ensure the restoration of the entire wetland and associated parishes, as wetland systems are highly interdependent. For the desired evaluation design, we need to identify a valid comparison group, i.e. areas that are independent (unlikely to be contaminated) from the effects of the intervention in the potential treatment areas. In this way, the treatment, or restoration of one node, will not affect the control area indicators and therefore bias the difference in outcomes between the two groups. The mapping will enable a clear identification of each node and the adjoining catchment area (and nodes therein) which will be affected by its restoration, allowing the identification of each independent node over the 54,000 ha of wetlands.

The mapping exercise was highly delayed and concluded only at the end of 2019. It was then realized that there are still some key aspects missing from the mapping exercise and a second round of revisions was undertaken in 2020, which is scheduled to conclude by early 2021. In collaboration with the consultant Dr. Babatunde Abidoye and Dr. Agha Ali Akram from the UNDP, we developed the following impact evaluation options:

1. Phase-in RCT: Based on the total universe of independent restoration nodes (that do not have spillovers on comparison nodes),

we will randomly select some to receive the treatment first (our treatment group) and some that will receive it only in 2024 (our comparison group).

2. DiD with PSM: Discussions with the project team raised concerns about the practical feasibility of not starting any project activities in the pre-determined comparison areas before 2024. Therefore, to ensure that we can adapt to unannounced or unintended changes in implementation plans in the assigned comparison group, which would threaten the internal validity of the impact evaluation design, a DiD complemented by PSM design is proposed. In this case, the targeted restoration nodes will be matched to multiple comparison group nodes, i.e. the number of suitable comparison areas will have to be larger than the treatment area nodes (i.e. 1:3 or 1:2 PSM for each treatment node/area). If one or more of the comparison nodes will be contaminated in the course of project implementation, we will be able to switch to other suitable comparison nodes.

FP035: Vanuatu

The project “Climate Information Services for Resilient Development in Vanuatu”, referred to by the abbreviation of its local name, Van-KIRAP, has two overarching goals. The first goal is to improve climate infrastructure to generate earlier and more accurate early warning data, the centrepiece of this being the installation of a Doppler radar. The second goal of the project is to improve the transmission of CI to end-users. The project team has a clear preference for an IE of the CI components over an assessment of the Doppler radar effect, since the latter does not represent the major project efforts but rather a fraction focused on improved equipment.

The project is currently under review and an update on implementation plans is expected in December 2020. At the current stage of information, the IE will be an assessment of

one out of two CI components. Specifically, the effect of the engaging and informing activities by the so-called sector coordinators will be evaluated. The sector engagement action plan identified for each of five sectors (i.e. agriculture, fishing, tourism, infrastructure, water) a specific and feasible set of actions addressing critical CI needs or vulnerabilities of the sector. Out of the five sectors, activities are most comparable for agriculture and fishing. It is therefore proposed to group farmers and fishers for a quantitative IE and address the remaining sectors - tourism, infrastructure and water - qualitatively. The main outcome variables of interest for the quantitative evaluation are income level and volatility, yield level for farmers or fish catch for fishers and volatility thereof, awareness of best practices, weather preparedness, and potentially damage.

Based on the information received from the project team in July 2019 prior to their project revision, sector coordinators will target 180 farmers in 10 sites and at least 140 fishers in 8 sites. These numbers represent conservative estimates such that the treatment group of farmers and fishers could consist of at least 320 people in 18 clusters. According to the project team, finding a comparison group of farmers and fishers with similar characteristics to the treatment group is feasible by using the same selection criteria applied to select project beneficiaries. In agriculture, the sites are selected because they grow specific crops, either cash or food crops, and face declines in yields related to climate variability and change. In fisheries, four sites are selected of which two represent historic hot spots that have been frequently exposed to marine heatwaves (thermal stress events) over the past 30 years as well as two sites that are projected to have lower exposure to future thermal stress. Even if suitable comparison sites can be identified, selection bias might still be an issue. The IE will thus rely on a quasi-experimental design,

namely a combination of DiD and PSM. The DiD approach allows for differences in baseline characteristics, as long as parallel trends for the development of outcomes in the treatment and comparison groups are given. It is proposed to find matches within province, which should guarantee similar political circumstances and spread of new technologies. Additionally, geographical closeness speaks to presumably similar susceptibility to weather events.

FP062: Paraguay

The “Poverty, Reforestation, Energy and Climate Change Project” (PROEZA) aims at increasing forest coverage and the resilience of poor indigenous and non-indigenous rural households in Eastern Paraguay. The project intends to achieve this goal through conditional cash transfers (CCT) for sustainable agroforestry practices and the provision of clean cooking stoves. The target group are current participants of the social CCT programme *Tekopora* who have access to suitable land for agroforestry. The existence and suitability of the land will be verified in a household visit.

The evaluation design of PROEZA consists of two clustered phased-in RCTs with approximately 2,000 non-indigenous households (in 200 localities) and 2,000 indigenous households (in 200 indigenous communities).¹ The RCTs will each have one comparison arm and one treatment arm, in which the participants are offered agroforestry training and cash transfers conditional on agroforestry related outcomes and practices. The clean cooking stoves will not be part of the evaluation. The comparison group will be phased-in in year 3 or 4 (Q2 2024) of PROEZA. The treatment group will enter the program in late year 1 (Q3/Q4 2021) and/or early year 2 (Q1/Q2 2022).

¹ Whether a randomization on locality level is possible is currently under discussion.

This evaluation design is able to measure the impact of household level outcomes for non-indigenous and indigenous households, as well as the increase in forest coverage on the plots of non-indigenous households. As indigenous households jointly work their communal land in many cases, the design is likely to be underpowered to measure the increase in forest coverage for the indigenous communities. Household level outcomes will be measured in a structured household questionnaire. For the measurement of forest coverage, we will use satellite images. The resolution needed for a precise measurement of the project's impact is still unclear.

Working with indigenous communities comes with the uncertainty of participation, both in PROEZA and in the randomized evaluation, and with potential challenges in collecting household data. To obtain consent for project implementation and evaluation, the AE will hold information meetings with the indigenous leaders prior to the start of the project. The evaluation team will work in close collaboration with the national agency for indigenous affairs and indigenous groups expert of the FAO to develop the data collection tools and planning the approach of the communities.

FP068: Georgia

The GCF-funded project “Scaling-up multi-hazard early warning system and the use of CI in Georgia” aims at creating a proactive integrated climate risk management approach through the establishment of a country-wide multi-hazard early warning system (MHEWS) and the use of CI in planning and decision-making.

The project has three components, each consisting of several activities. The third component of the project was identified as the most suitable for a rigorous IE. The IE designed by the LORTA team will particularly focus on Activity 3.1 of this component. This activity will implement community-based early

warning schemes (CBEWS) in 100 of the most vulnerable communities in Georgia and community-based climate risk management (CBCRM) in 60 of the mentioned 100. Conditional on the approval of additional funding from the Swedish International Development Cooperation Agency (SIDA), the number of communities targeted for CBCRM may rise to 80. The communities targeted by CBEWS and CBCRM will be spread (not necessarily evenly) across 11 river basins. Eligible, i.e. most vulnerable, communities will be identified based on risk profiles developed through multi-hazard mapping and socio-economic vulnerability assessments. The risk profiles will result in summary scores presenting the multi-hazard vulnerability of communities in hazard prone areas. At the moment, the environmental economist of the project team is developing a unified methodology for the multi-hazard risk profiling. This method will involve the definition of a threshold based on which the pool of eligible communities will be identified. To determine eligibility, communities' willingness to participate in the project will also be taken into consideration. It is assumed that – given the inherent vulnerability of communities – these will be greatly interested in participating.

The proposed IE design is an RCT. The eligible pool of vulnerable communities is expected to be much larger than 100 communities. The RCT will randomly select from the eligible pool in a given river basin a group of communities to receive the program, while the others will serve as the comparison group. With a large enough number of eligible communities per river basin, the treatment and comparison groups are expected to be statistically similar. Moreover, as not all the 100 selected communities will receive CBCRM, two treatment arms will be considered. Treatment arm 1 consists of 40 (or 20) communities receiving CBEWS. Treatment arm 2 consists of 60 (or 80) communities receiving CBEWS plus CBCRM. The comparison group receives neither CBEWS nor CBCRM. All communities in the

treatment and comparison groups receive risk awareness activities as part of the project. Due to implementation constraints (regarding budget and capacity), the exercise of multi-hazard mapping and socio-economic vulnerability assessment is phased in over time. As a result, the identification of eligible communities and hence baseline data collection will also be phased in. Three river basins will undergo risk profiling in Q3 2021, three in Q1 2022, three in Q1 2023, and the remaining two in Q4 2023. This phase-in is not random. The deciding factor for the first group of river basins (Supsa, Natanebi, and Kintrishi I) is their small size, while the deciding factor for the second group (Enguri, Khobistskali, Chorokhi-Adjaristskali) is their geographic proximity to the first group. Information on the selection of the third and fourth groups has not yet been shared. Given that the phase-in is not random, and that the analysis will be conducted on the pooled sample of communities across the four groups, information on the selection factors will be collected and controlled for in the final data analysis.

FP072: Zambia

The project “Strengthening climate resilience of agricultural livelihoods in Agro-Ecological Regions I and II” aims to achieve increased resilience of smallholder farmers by taking a value chain approach. It addresses barriers to CRA across key stages of the value chain – planning, inputs, production and post-production – through various activities such as input support, training and infrastructure development.

The project consists of three interrelated components. While the first component aims at increasing the quality of weather/climate-based information and the dissemination thereof, the second component is mostly directed at irrigation and input support. Concerning the latter, most of the Government of Zambia’s financing comes from the Farmer Input Support Program (FISP), while the GCF’s co-

financing targets alternative livelihoods such as beekeeping, goat-rearing and diversification away from maize through improved seeds. The third component aims to ensure the sustainability of the first two components by improving access to markets and finance. A total of 157,000 farming households in 220 agricultural camps in 16 districts are expected to eventually benefit from the interventions.

The IE will focus on the effects of inputs provided by the project as part of the second component by means of an RCT. The listing of the potential target population, comprising 240,000 households permanently residing in the project areas, and the beneficiary selection started in 2019. The listing is ongoing (40% completed). The selection of beneficiaries for improved seeds through the lead-farmer model is also currently ongoing, in 2020 lead farmers will receive improved seeds and follower farmers in the coming year.

Some beneficiaries have already been selected and these mainly received goats. These beneficiaries are likely not representative of the overall population of eligible farmers such that finding a sufficient number of comparable farmers in the comparison group may be difficult. The reason is that farmers who received goats were randomly drawn only from those farmers who attended a public lottery. Attendance sheets for this public lottery were also not filled in consistently. Hence, the impact of receiving goats can likely not be estimated rigorously, and the RCT may instead focus on improved seeds and beehives. It is envisioned that all current and upcoming rounds of beneficiary selection will be done randomly among all eligible farmers, which will allow for a standard RCT.

FP069: Bangladesh

The project “Enhancing adaptive capacities of coastal communities, especially women, to cope with climate change induced salinity” has the goal of strengthening the adaptive capacities of the coastal communities in Bangladesh against the impacts of climate change, by especially aiming at the adoption of climate-resilient livelihoods and an increase of drinking water availability. The AE for this project is UNDP, implementing partners are the Ministry of Women and Children Affairs (MoWCA) and the Department of Public Health Engineering (DPHE). The target population of the project are mainly women that are vulnerable to climate change induced salinity in two districts in the coastal area of Southern Bangladesh. The project consists of three interlinked components, of which component 1 (climate-resilient livelihoods) is most relevant for the IE. As part of component 1, women livelihood groups will be formed or reactivated, who will then jointly select three out of eight livelihood options based on their preferences, for which they will get trained as a group. After completion of the training, they are asked to select two out of the three trained livelihoods, for which they will receive the necessary input.

Evaluation questions to be answered are the following: Do the adaptive livelihoods promoted by the program provide sustainable means of earnings?

The IE design agreed upon is a randomized clustered phase-in design (with two phases), that will measure the impact of the “adaptive livelihoods” component of the project. With this design, all the eligible households selected by the project will eventually receive treatment. The only deviation from the original implementation plan is that treatment is rolled out to several groups of areas progressively. For this, target areas will be randomly split into two groups and livelihood activities will be rolled out in group 1 first, and in group 2 later. To measure the effects of the livelihood component, outcomes between group 1 and group 2 will be compared just before the start

of the implementation of activities for group 2. Given the selection process of beneficiaries, wards constitute the relevant clusters for the IE, and randomization will be done at the ward level. That is, wards will be randomly split into the two phase-in groups.

A limitation of this design could be the short-term horizon of the IE study. Indeed, the delay in implementation between the two phases determines the timeframe of the expected impacts. For some outcomes, there is a risk of observing no effects if they do not materialize in the short run. Therefore, it is important to carefully select the key indicators. Also, this design can answer one evaluation question only, i.e. cannot answer questions about impact of drinking water solutions or the impact of the whole programme. Lastly, there is a strong commitment needed from the implementing NGOs to comply with the design (with regard to randomization).

Before project implementation starts, the project team plans to conduct a census, which is planned to start in early January and to be completed by mid-February 2021.

Randomization and baseline data collection is planned to start between completion of the census and the start of project implementation.

FP073: Rwanda

The project “Strengthening climate resilience of rural communities in Northern Rwanda” (Gicumbi project) aims to increase the resilience of vulnerable communities to climate change. This will be achieved by restoring and enhancing the ecosystem services of subcatchment B of the Muvumba watershed, increasing the capacity of communities to renew and sustainably manage forest resources and supporting smallholders to adopt CRA. The project will also invest in green settlements for vulnerable families currently living in high-risk areas. The project has four main components: (1) watershed protection and CRA, (2) sustainable forest management and sustainable energy use, (3) climate-

resilient settlements, and (4) knowledge transfer and mainstreaming.

The AE for this project is the Ministry of Environment of Rwanda, and the executing entity is the Rwandan Green Fund (FONERWA).

The principal evaluation question aims to uncover to what extent the Gicumbi project contributes to incremental and transformational climate change adaptation and to the mitigation of GHG emissions. Further evaluation questions related to the main question are as follows:

- Do adaptation interventions of components 1 and 2 lead to an increase in farmers' adoption of CRA practices?
- Do adaptation activities of components 1 and 2 lead to an increase in food security and diversity?
- Do component 1 and 2 activities lead to an increase in smallholder farmers' resilience? What dimensions of resilience are the most influenced by the project activities?
- To what extent do mitigation activities of component 2 lead to the production and use of cleaner energy for cooking?
- Do mitigation activities of components 1 and 2 lead to an increase in permanent vegetation cover and in diversity of tree species of targeted areas?
- Do the project activities of components 1 and 2 contribute to an increase in women's participation in economic life? Do the impacts of the project differ by the gender of the household head?
- How do green settlements affect the resilience of vulnerable households and that of expropriated households? What are the factors that helped or hindered transformative change?

In order to evaluate the different project components, a mixed-method approach is suggested. The quantitative evaluation will focus on the activities of components 1 and 2 and be based on a quasi-experimental design. Specifically, DiD combined with PSM will be used. One limitation of the suggested strategy is that we are not able to learn about the

differential impact of specific project activities. The LORTA team recommends instead to explore the differential impact of various degrees of treatment intensity.

Qualitative research methods will complement the quantitative evaluation by focusing on the beneficiaries' perception of the transformational change triggered particularly by component 3 of this project.

FP087: Guatemala

The project "Building livelihood resilience to climate change in the upper basins of Guatemala's highlands" (referred to below as "the watershed project") aims to improve the quality of watersheds while enhancing water and food security. The project area covers 24 micro watersheds in the highlands of Guatemala. The project consists of three project components that are implemented at the community and watershed levels. The first component addresses unsustainable land-use practices through extension worker training, financial incentives and the development of a micro watershed management plan. The second component offers financing to community-based organizations present in the area to implement actions in response to climate change. The third component supports the generation of CI to guide decision-making regarding watershed management and farm practices for agriculture, forestry and conservation purposes to target users.

The AE for this project is the International Union for Conservation of Nature (IUCN). The project is implemented by a range of national and subnational entities, in particular the Ministry of Agriculture, Livestock and Food; the Ministry of Environmental and Natural Resources; the Rural Development Learning Centers; the National Forest Institute; and the Institute of Agriculture, Natural Resources and Environment. Important roles are also assigned to agricultural extension workers and municipal forestry offices/environment units.

The main research questions to be answered refer to the impact of the watershed project on

the water security of farmers and whether farmers become more resilient and/or less vulnerable to extreme weather events. Further IE questions are as follows:

- Did the intervention lead to better awareness and knowledge of climate-smart agriculture of farmers?
- Did the intervention lead to the implementation of activities related to climate-smart agriculture by farmers?
- Did the intervention lead to the diversification of crops by farmers?

The evaluation design is a DiD design with PSM on household and community level. The comparison group is formed by household living in micro watershed areas similar to the treatment micro watershed. Those comparison micro watersheds will be selected purposefully by the project team taking into account climatic and socio-economic parameters. The comparison watersheds might lay inside or outside the four watersheds of the target area. The evaluation design will measure the joint impact of all three project components. Yet, it is likely that the second component will only cover a subset of the project communities.

FP097: Central America

The CAMBio II project aims to improve the resilience of MSMEs in Central America to the consequences of climate change. The Central American Bank of Economic Integration (CABEI), AE and implementing partner, will establish a credit line for intermediary financial institutions (IFIs) that finances credits for MSMEs' adaptation projects and provides funds for capacity-building of MSMEs and IFIs. The target population is MSMEs that are vulnerable to climate change in seven Central American countries: Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, Panama and the Dominican Republic. The project consists of three interlinked components: (1) access to credits for MSMEs through selected IFIs; (2) provision of technical assistance, accompaniment and training of MSMEs and IFIs on green financing and adaptive measures;

and (3) awards to IFIs and MSMEs for the successful implementation of investment projects.

The principal evaluation question is whether MSMEs are less vulnerable / better adapted to climate change events. Further (sub-)questions are as follows:

- Do the MSMEs have a better knowledge of the effects of climate change?
- Do the MSMEs have a better knowledge of adaptation measures?
- Do the MSMEs implement more adaptation measures?
- Will the effects be different between sectors (and gender)?

The proposed evaluation designs are a DiD design with PSM and a randomized encouragement design. To reduce the heterogeneity of the study population, while maximizing sample size and external validity, we will focus the IE on the smallholder coffee farmers. This group is expected to make up for the largest share of credit takers. The key challenge for the IE is finding a suitable comparison group. Because the project is in theory not limited to any geographical area, MSME location cannot be used to identify the study population (5,000 credits distributed over seven countries and different sectors is too broad) within the target countries.

Furthermore, the number of credits is small: 5,000 over five years in seven countries. Hence, if we drew a random sample of all MSMEs in the project area, it is highly unlikely that one of those would actually become a CAMBio II borrower. Working with applicants that were rejected by CABEI is also not possible, because (1) the country teams do not expect access demand and (2) the application process is supposed to take only one month, hence there is not enough time to conduct a baseline data collection before the treatment is in place.

Instead, our sampling strategy exploits the fact that the IFIs will have to proactively promote the CAMBio II credits in order to distribute them. As intensive promotion is costly, it needs to be well targeted to eligible and

potentially interested enterprises and producers in order to be cost-effective. We assume that even though the MSMEs have not yet applied for the credit, the IFIs are likely to know who the future CAMBio II borrowers will be. This population could then be used to sample treatment households for the DiD design or to randomize MSMEs into treatment and control for the RED. Alternatively, a comparison group can be identified by matching non-CAMBio II credit takers from the CABEI data base with future credit takers using the monitoring system of the bank and the “base form” of information collected for each credit applicant.

FP098: Southern Africa

The DBSA, AE for this project, has recently launched a new programme, the Climate Finance Facility (CFF). The CFF is a lending facility that aims to increase climate-related investment by the private sector in the Southern African region. The target countries of the CFF are South Africa, Namibia, Lesotho and eSwatini. Since the pipeline is expected to be dominated by projects in South Africa, the primary focus is on this country. The targeted sectors of the CFF are energy, water, waste and transport. The CFF plans to finance both mitigation projects (RE, waste to energy, energy efficiency, low-emission transport) and adaptation projects (water efficiency, water treatment, new clean water).

Since a facility-wide IE would be difficult, if not impossible, the LORTA team decided together with the CFF team to reduce the scope to either the project level or the subsector (i.e. RE) level. The IE tries to answer different evaluation questions, related to the four high-priority goals of the CFF (reduced emissions of CO₂, increased resilience against water shortage, job generation and increased commercial investment):

- Is the climate-friendly technology for which CFF funding is provided installed and operational?

- Do the end beneficiaries use the technology?
- Do investments by the private sector, which are funded by the CFF, lead to reduced usage of on-grid electricity? Do they lead to changes in the usage of total (i.e. on-grid and other) electricity?
- Do the investments lead to reduced usage of water?

The suggested evaluation method follows the method of an event study: an intervention may be given at different times for different locations. The date of the intervention (i.e. the point in time when a technology becomes operational) is coded as time 0 and called the “event”. The outcome of interest can then be coded as an outcome at or some amount of time before or after the event. Even though a comparison group, which never experiences an event, is not needed in an event study, being able to include a comparison sample is helpful to better illustrate any changes in outcomes after the event. However, unlike other IE designs in which it is required that the comparison group is not treated during the evaluation period, this is not a necessary condition here. This purely quantitative analysis is planned to rely entirely on administrative information from the project developers. It may be complemented by qualitative information to obtain additional insights on what end beneficiaries think about climate-friendly technology.

Table 3 Summary of impact evaluation designs of projects started in 2018 and 2019

PROJECT N°	COUNTRY	EVALUATION QUESTIONS	EVALUATION DESIGN	PRIMARY DATA COLLECTION	EXPECTED EVALUATION RESULTS
FP002	Malawi	Are farmers better aware of climate risks and adapting their plans based on changes in seasonal and short-term forecasts?	PSM	Baseline completed in Q4 2018, endline completed in Q4 2020	2021
FP026	Madagascar	<p>Do adaptation interventions lead to an increase in the number of conservation agriculture practices implemented?</p> <p>Do adaptation interventions lead to a reduction of households' vulnerability to climate hazards?</p> <p>Do adaptation interventions lead to an increase in agricultural production and food security?</p> <p>Do patrollers cover a greater distance during patrols?</p> <p>Do patrolling interventions lead to a better enforcement of regulations of the forest protected area?</p> <p>Do patrolling interventions results in a reduction in deforestation?</p>	Clustered Phase-in RCT and DiD with PSM	Baseline completed in Q2 2019, Midline expected in Q1 2022	2024

FP034	Uganda	<p>Are the ecosystems within wetlands restored to their original capacity?</p> <p>Are income levels of community members increased due to the alternative agricultural and non-agricultural livelihood trainings?</p> <p>Is income volatility reduced due to the alternative agricultural and non-agricultural livelihood trainings?</p>	Phase-in RCT or DiD with PSM	Baseline presumably in Q2 2021	2025
FP035	Vanuatu	Does the use and application of CIS lead to improved living conditions and more food security for fishers and farmers?	DiD with PSM	Baseline presumably in Q1 2021	2022 or 2023 (if extended)
FP062	Paraguay	<p>Are indigenous and non-indigenous farmers changing their agricultural production towards climate-smart plantation systems?</p> <p>Does the training and E-CCT lead to an increase in forest coverage on non-indigenous and indigenous land?</p> <p>Does the training and E-CCT lead to better food security among poor rural households?</p> <p>Will the participating households experience a lower degree of yield variability and have more stable income flows?</p>	Clustered RCT	Possibly no traditional baseline planned, but adding some questions to the questionnaire in the selection process, likely to happen in Q2 2021	2024
FP068	Georgia	To what extent does CBEWS and CBCRM contribute to enhancing households' resilience against natural hazards?	RCT	Multi-hazard mapping and socio-economic vulnerability assessment (including household-level baseline data collection): by Q4 2021 (group 1), Q2 2022 (group 2), Q2 2023 (group 3), Q1 2024 (group 4)	2025
FP072	Zambia	<p>Does the distribution of improved seeds lead to more diversified and more climate-resilient planting decisions?</p> <p>Does the distribution of improved seeds lead to higher income and reduced vulnerability to climate change?</p> <p>To what extent do farmers become more climate resilient due to alternative livelihood inputs?</p>	RCT	Baseline in Q4 2020	2025
FP069	Bangladesh	Do the adaptive livelihoods promoted by the program provide	Phase-in Clustered	Baseline planned for Q1 2021	2023

		sustainable means of earnings?	RCT		
FP073	Rwanda	Does the project contribute to incremental and transformational climate change adaptation and to the mitigation of GHG emissions?	DiD with PSM	Baseline conducted in Q2 2020, midline planned for 2023	2025
FP087	Guatemala	Does the project increase the water security of farmers? Do farmers become more resilient and/or less vulnerable to extreme weather events?	DiD with PSM	Baseline planned for in Q1 2021	2026
FP097	Central America (7 countries)	Are MSMEs less vulnerable / better adapted to events of climate change due to the adaptation of climate-smart agriculture?	DiD with PSM	Baseline presumably in Q3 2021, but might be replaced by monitoring data	2026
FP098	Southern Africa (4 countries)	Do investments by the private sector, which are funded by the CFF, lead to reduced usage of on-grid electricity? Do they lead to changes in the usage of total electricity? Do the investments lead to reduced usage of water? Is the climate-friendly technology for which CFF funding is provided installed and operational? Do the end beneficiaries use the technology?	Event study	Not needed	2023

B. Summary of technical advice and quality checks performed and next steps

Malawi

Status Quo:

In Malawi, the baseline data was collected in fall 2018. After having been granted access to the baseline data in March 2020, the LORTA team assessed the quality and further cleaned the data. This was necessary to determine whether the IE design is still feasible and whether the endline data collection can be implemented as originally planned. In preparation of the endline data collection, we provided detailed input for the endline questionnaire, assisted in setting up the terms of reference (ToR) for the survey firm and prepared a detailed data analysis plan (DAP). The survey firm for the data collection was hired in August 2020. The LORTA team conducted multiple reviews of the endline inception report and questionnaire. The survey firm conducted the endline data collection in October 2020. During the data collection C4ED provided technical advice to the survey firm (e.g. relating sampling, potential issues with attrition) and reviewed the field report. In November 2020, the survey firm shared the raw dataset on which C4ED conducted quality checks and shared feedback. C4ED also looked at the endline dataset and assessed whether people sampled into the data were actually interviewed. We did this by comparing the sampling sheets with the names of farmers to be interviewed (same as in baseline) to the survey data from the endline. One obstacle doing this was that most farmer names were not cleaned, that is there were spelling issues and automatic matching was not possible in all cases.

Furthermore, C4ED assessed whether the definition of a sampling cluster was respected and how many full clusters were in the dataset used for the analysis. We found no variable indicating sampling cluster information on farmers, , so the cluster sizes could not be calculated/generated.

C4ED also worked on generating the matching variables for the PSM from the baseline dataset as well as to retrieve secondary data. C4ED received the raw datasets, cleaning do-files and cleaned dataset in November and conducted two rounds of revisions. In this report C4ED included some suggestions for the survey firm that are relevant for the analysis stage. We also shared an example do-file showing how to conduct the PSM analysis and a second do-file to generate PSM estimates and clustered bootstrap standard errors

Next Steps:

The LORTA team will continue providing technical advice and detailed quality assurance for the analysis of the final IE report and assist if technical gaps are identified.

Madagascar

Status Quo:

In Madagascar, the baseline data was collected by the project team between March and May 2019. The midline data collection was initially planned for early 2021, but because of delays in project implementation due to the COVID-19 pandemic, the project obtained a one year extension and the midline was postponed to early 2022, therefore no further involvement of the LORTA team is expected until March 2021.

Next Steps:

Once the preparation for the midline start, the LORTA team will resume advisory activities, write a DAP and support the midline data collection and analysis.

Uganda

Status Quo:

The final IE design hinges on the analysis of the mapping exercise for the untouched 54,000 ha of wetlands that are to receive the intervention package. The LORTA team assisted the project team in building the

necessary secondary data dataset for identification of the evaluation sample areas. Evaluation sample areas are areas belonging to independent wetland restoration nodes. For this purpose, as well as for the support of project implementation, the project team organized a mapping exercise for the 54,000 ha of untouched wetlands that are to receive the intervention package.

This mapping exercise has been concluded, and the data was shared with the LORTA team in June 2020. In collaboration with UNDP, C4ED assisted the project team in gathering all necessary information for data merges and consistent data cleaning. We are currently finalizing the process and make sure that the data merge worked correctly. This non-trivial exercise has the goal to identify the universe of restoration nodes, within which treatment and control groups will be randomly assigned.

Next Steps:

Once the quality assurance is completed, we will use the dataset to confirm which of the suggested IE designs will be most appropriate for the situation on the ground and hence adopted. As soon as the data cleaning process and advice on sample selection is concluded, we will advise the project team on the survey instruments for the baseline data collection, requirements for the data collection firm and timelines.

Vanuatu

Status Quo:

The project implementation was delayed, as the project entered a review process of all planned activities and the project lead was replaced. In March 2020, updated activity plans, log frame and implementation timetables were shared with C4ED. Further updates, however, are still required and were partly also delayed due to the COVID-19 pandemic and occurrence of cyclone Harold. The LORTA team discussed with the project team the feasibility of the suggested approach. In this discussion, alternatives were proposed

and advice on sampling and data collection tools as well as projected costs were given. The project team re-emphasized their interest in the IE. Due to the change in the project team, clarifications on the IE methodology are necessary, as key members were not part of the scoping mission. While project activities are now planned to start in January 2021, the implementation will not be immediate, leaving time for a potential baseline data collection.

The project team was consulted on a potential monitoring set-up and the clear necessity to appoint a team member responsible for the monitoring approach as well as on further requirements for sound monitoring. To our understanding, our suggestions are currently reviewed by the project team and the team structure will be adjusted accordingly.

Next Steps:

C4ED and the project team agreed to have one more digital workshop in January 2021. During this workshop, there will be intensive discussions on sampling and data collection requirements. The final IE design will take into account the time, capacity and budget constraints of the project team.

Further consultations on the monitoring set-up will follow once the project activity plans and hence the IE approach are finalized.

Georgia

Status Quo:

In July 2020, C4ED provided feedback on two reports which the project team had shared with them earlier. These reports were 1) the baseline report for Activity 3.1 and Activity 3.2 of the project “Scaling up multi-hazard early warning systems in Georgia” and 2) a report on knowledge, attitudes, and practices (KAP).

In Georgia, the intervention is still at a relatively early stage. In order to identify the eligible communities, the UNDP team has hired a team of international experts for developing the MHEWS methodology. They will establish and coordinate the hazard risk

mapping and socio-economic vulnerability assessments with national implementers in groups of basins. Because of capacity constraints, the communities around the 11 basins have been divided into four groups and the implementation of the MHEWS will be phased-in over time until all groups are covered.

Given the importance of closely coordinating with the group of technical experts hired by UNDP, the LORTA team reviewed the vulnerability assessment developed by the latter and discussed in a joint call remaining open questions concerning the methodology, sample selection and data sources. In November 2020, we had another update call in which we presented clear infographics on the IE design to the UNDP team and the technical experts. During this call, we were informed about revisions to the methodology (still work in progress) and delays in the project timeline. There are major delays in implementation, which will inevitably move the expected deadline for the completion mapping and assessments (and resulting risk profiles for communities) to around September 2021.

The project team also confirmed budget availability to implement the suggested IE design; this especially includes the feasibility of reaching the targeted sample size.

Next Steps:

We await to receive the updated methodology from the technical experts. After this, the IE design report will have to be adjusted accordingly.

The baseline data collection and report writing are now currently planned for the last quarter of 2021 (November-December) while the roll-out of the interventions in the first group of basins is planned to start in the second quarter of 2022. The UNDP team would like to start developing the ToR for the IE data collection during February 2021.

Paraguay

Status Quo:

There is an ongoing discussion on the timing of the intervention. The Government of Paraguay plans to prioritize three of the eight departments in the implementation of PROEZA, namely San Pedro, Caaguazú and Canindeyú. The three departments make up 65% of the non-indigenous and 72% of the indigenous potentially eligible population. Moreover, on request of FAO Paraguay, PROEZA shall no longer be phased-in over five years but implemented over the course of three to four years. Seven out of the 69 municipalities have already been selected to be covered in the first half of year one. This leaves 62 municipalities for the IE, of which 42 fall into the three priority departments. The discussions about the sample selection for the IE are ongoing, but the national LORTA coordinators signaled that a randomization within the priority areas would be an option.

In November 2020, it also became clear that a staggered enrollment of localities within the same municipality to PROEZA is logistically not feasible. Consequently, the unit of randomization need to be municipalities, instead of localities as originally planned. This change has serious implications for the study design, as it affects a) the ability of the randomization to create similar treatment and control groups and b) affects the power of the analysis.

Next Steps:

The next steps consist in reaching an agreement with the government on the randomization procedure and further discussions between FAO and C4ED on plans for M&E. Once the evaluation design is selected, we will work on the DAP and support for the ethical clearance. In addition, C4ED together with FAO and IEU applied for funding from the Abdul Latif Jameel Poverty Action Lab (J-PAL) for a pilot study on the PROEZA.

Zambia

Status Quo:

In order to create a list of eligible farming households, a listing exercise was already started in autumn 2019 but has only been partially completed (around 40% of the expected number of eligible farmers have been listed). A lottery was conducted for the distribution of the first batch of beehives and goats. This was done in parallel to the listing exercise.

As a partner of Ipsos, who is leading the baseline data collection, C4ED is in regular contact with the UNDP consultant as well as occasionally project staff. C4ED has received lists of beneficiaries for beehives and goats, including those that will benefit from the passed-on goats in the coming year. Furthermore, we have received a list of camps that will receive boreholes. The selection of the beneficiaries of improved seeds, which would have otherwise been the focus of the IE, has not been completed yet. We conducted the sampling for the baseline data collection, which has just started.

There has been little progress on advising on systems for implementation tracking. As part of the sampling for the baseline data collection, we have initiated that the beneficiary information is compiled centrally. Leading up the sampling, we have discussed implementation tracking with a technical advisor of UNDP and hope we can continue the discussion even after the baseline data collection.

Next Steps:

If the field work goes smoothly, data collection will be completed by the end of December 2020, which will be followed by the writing of the baseline report (lead by Ipsos with quality assurance provided by C4ED).

Bangladesh

Status Quo:

The project team has completed their internal recruiting and the procurement process for the water tanks as well as the recruitment of NGOs to implement the project is finalized. Before project implementation starts, the project team plans to conduct a census, which is planned to start in early January and to be completed by mid-February 2021. Currently, the field work preparation is ongoing, and the questionnaire, that has been commented on by C4ED, will be tested in the field.

The project is still working on the M&E plan, which will be shared with C4ED once ready. It is expected that this will be finalized before the end of December.

Next Steps:

C4ED will revise and finalize the IE Design Report by January 2021.

Once the M&E plan is received, C4ED will give input and feedback on the planned monitoring activities, including the clear definition of indicators, the development of an indicator plan as well as feedback on any available monitoring tools and the planned data management system.

For the baseline data collection, C4ED will review the ToR for the data collection firm, in particular to ensure that the firm has high standards of data monitoring and quality. After the census is completed, the project will use the collected data to select beneficiaries. After randomization, C4ED will select a random sample of beneficiaries and control households for baseline interviews. C4ED will review the baseline questionnaire and give advice on sampling where necessary.

Baseline data collection is planned to happen in February/March 2021. C4ED will check field reports submitted while the data collection is ongoing as well as check the quality of the survey data upon completion of data collection.

C4ED will also be responsible for data cleaning, data analysis and the writing of the baseline report.

Rwanda

Status Quo:

The baseline data collection, first planned for April 2020, was finally conducted in June and July 2020 by a local survey firm (SESMEC). C4ED provided feedback in the form of technical notes and several rounds of video calls. We have advised on the selection of control villages, the required sample size for the treatment and control groups, the selection of respondents, and the survey tools. When reviewing the household questionnaire, we paid attention to the flow and clarity of the questions, the appropriate unit of measurement, and the completeness of the questionnaire, in order to appropriately capture all key impact indicators mentioned in the design report. We only got access to the paper version of the questionnaire, such that the programmed constraints and skipped patterns were not revised. Next, we reviewed the quality of the survey data and provided our feedback on the baseline report produced by the team. Guidelines on sharing anonymized data, data cleaning and baseline data analysis, as well as a baseline report outline, were shared with the project team and survey firm in July 2020.

For the implementation tracking, there is no progress since March 2020. Per October 2020, the M&E plan and the Management Information System (MIS) of the project experienced delays and was still being developed. The project team announced that the M&E plan and data collection tools will be shared for review and guidance. We received access to the MIS platform but the platform appeared to be still under construction. Updates have been inquired in November 2020 and the project team confirmed that the company working on the MIS system is still in the process of reviewing the platform and

updating it following comments from the project team and IT stakeholders.

Next Steps:

The project team has confirmed that they will share the indicator plan and access to the first version of the completed MIS system by January 2021. C4ED has requested that the project team share the inception report from the company working on MIS for a better understanding of the functionalities of the system and its structure.

Upon reception of implementation tracking data, we could assess the extent of exposure to the project activities by households who took part in the baseline survey in the treatment area given that a unique identification in both data sets was available.

Once the monitoring system is in place, we will also review the monitoring reports produced by the project team. This will also allow us to assess whether first recommendations have been successfully implemented, and to follow closely the progress of project implementation and its alignment with the IE strategy.

Guatemala

Status Quo:

The national coordinator of the watershed project from IUCN has requested to develop a potentially cheaper evaluation design, with more focused outcome measures. For this purpose, a short virtual workshop was held in October to discuss changes in the ToC and IE indicators. The new outcome indicators have shifted to focus from food security and income to resilience measures. In particular, it was decided to use the resilience measurement indicator developed by IARNA (Instituto de Agricultura, Recursos Naturales y Ambiente), which is the implementing partner for the early warning component.

The project area of 20 watersheds has not yet been defined, even though a study characterizing all 35 watersheds in the project area has been finalized. The final definition of

the study watersheds has been delayed partially due to the impact of the cyclone Eta, which hit the highlands of Guatemala with great force.

The project team plans to conduct a baseline data collection in Q1 2021 including primary data collections on household, community and organizational level and secondary data collection for geo-data. For this purpose, IUCN will hire a consultancy firm through an open call in December. C4ED has revised the evaluation matrix and offered support in setting up the ToR.

Project implementation has not started yet.

Next Steps:

C4ED has offered to IUCN to conduct high frequency data quality checks during the baseline data collection. This is to ensure that all impact indicators are measured as accurately as possible such that they can be used for the DiD design. The baseline data collection will take place in February/March 2021. Shortly before, once the final questionnaire is developed, we will advise on built-in consistency checks for the data collection instruments and set-up our own data quality systems, spotting inconsistencies, outlier and low enumerator performance on a daily basis.

Central America (7 countries)

Status Quo:

Due to COVID-19, the project implementation activities, such as the inception workshop for IFIs and MSMEs and the start-up workshops for MSMEs, have been delayed. In November 2020, CABEI has contracted the PMU and an M&E specialist. The evaluation office has agreed to the DiD design proposed in the LORTA design report and is keen to integrate data sharing rules to the contracts with the IFIs for the purpose of the evaluation. In addition, CABEI is developing a “base form” that MSMEs will have to fill out in their application to funds from CABEI credit lines. This data can potentially be used for the

evaluation at baseline. C4ED has received the general “base form”, but not yet the CAMBio II specific base form.

Next Steps:

An update design workshop is planned for January 2021, to involve the PMU and the M&E specialist in the evaluation plans and revise the design if necessary.

Southern Africa (4 countries)

Status Quo:

The IE of the CFF will most likely focus on one or two large investments (solar rooftop construction by Fedgroup and/or energy-efficient social housing by the Trust for Urban Housing Finance (TUHF)), and it will entirely rely on administrative data which the DBSA collects from its borrowers before and during the lending cycle. For all its investments, the DBSA uses a Development Results Template (DRT), which forms the basis for monitoring of project implementation. This template contains standard indicators on core outputs and outcomes of DBSA investments but also supplementary indicators. For the investments of the CFF, the OEU of the DBSA includes climate-related and project-specific indicators in the template. Since the IE will rely on administrative data, including data provided by the investees to the DBSA with the purpose of reporting, we agreed with the OEU that indicators required for the IE will be added to the DRT.

Currently, one of the investments (Fedgroup) is at contracting stage with the final loan agreement not yet signed, while the other investment (TUHF) is still in the due diligence process. The DRT for the Fedgroup investment was drafted by the DBSA in September and we received a copy of it. In a next step, we put together a document including indicators that we would like to be added to the DRT, additional data requirements for the IE as well as a set of open questions to the Fedgroup. We sent this document to the DBSA in October. We also shared a summarized version of the IE

Design Report to inform the Fedgroup about the precise plans for the evaluation. With the help of this short report, we hope to secure the interest of the Fedgroup in working with us on an IE. The DBSA expects to finalize the loan agreement soon, such that we might obtain confirmation from the Fedgroup in early 2021 that they want to work with us on the IE.

Next Steps:

As soon as the loan agreement has been signed, we aim to obtain a sample of administrative data currently collected by the Fedgroup to verify that all our data requirements, including those which go beyond the indicators specified in the Development Results Template, are met. Depending on the size of the sample, we could even run some first estimations to make sure that we have not forgotten to specify certain data needs.

In addition, C4ED will also write a DAP, which will present the detailed plans for analysis for the IE.

IV. LESSONS LEARNED AND RECOMMENDATIONS

LORTA Design Workshop

This year, the LORTA design workshop was conducted with a new format. The feedback was overall positive, there was no drawback perceived relative to an in-person workshop. A clear indicator for this is that there was almost no attrition over the whole period of the workshop. Although the attendance during the webinar and breakout sessions as well as the viewing rates of the learning videos varied, all project except one handed in a final presentation for the rapid-fire session. The workshop organization ran smoothly and small problems were quickly resolved, not the least through feedback sessions after every webinar. A survey with participants halfway through the workshop also showed continued interest and positive feedback. The fact that it was stretched over several weeks was even beneficial since it allowed a more intensive group work on different IE topics than in the previous conferences. Furthermore, project representatives could use the extra time between sessions to look up certain information or documents. The webinars also got better over time in terms of encouraging active participation participants by asking questions more related to the project perspective.

The virtual form of the breakout sessions was also received well as it gave the participants time to ask specific questions and revisit topics that were not yet clear to them and allowed for a more tailored discussion of potential for IE. In addition, all groups could choose their time slot on their own, ensuring maximum availability of participants. However, motivation, preparation and attention among the groups differed quite a lot. Here, the online format might have been an even better indicator for later interest and engagement than an in-person workshop: while in an in-person workshop, a lot of information is delivered in a short period of time, in this virtual workshop

participants had to remember what was discussed in the last week and it became evident who was really interested. The random picks of projects for presentations in the webinars were also certainly a good way to keep them working. Difficulties were sometimes a bad internet connection, different time zones as well as language barriers. Considering time zones and language barriers might be important criteria when forming future break out groups,

While all workshop elements have their own purpose and effect, their sequencing might need some refinement. Since the same topic was watched in the learning video first, then covered again in the breakout sessions, and afterwards repeated in the webinar, there was a lot of repetition. One suggestion to avoid this could be to have projects give their presentations on the topic of the past week, allow for discussion and then give a short introduction to the new topic in the webinar as an appetizer to watch the full video.

The material developed this year contained more information than previous workshops, was better structured and clearly focused on learning. The learning videos might have sometimes been too long, going into a lot of detail, which was especially the case for the video on power calculations. The video covered the topic with a lot of technical detail, which might have discouraged some participants.

Something that was missing in this workshop as opposed to previous ones was the integration of keynote speakers into the workshop programme. This could have given participants a different perspective or allowed to access IE from a different angle than what was presented and would have added for more diversification in topics. However, the workshop was already quite time intensive for many participants, such that this would have only been possible with a cut back on covered material. For the next time, the developed material could also be even more hands on, drawing from examples of actual LORTA

projects, making even rather theoretical concepts more illustrative.

For the next year, we would suggest a workshop with all current LORTA projects, for cross-project learning and sharing of experiences, thereby also inviting keynote speakers from different organizations and disciplines.

Formative work (Phase I)

Not yet conducted

Impact evaluation stage (Phase II)

The LORTA activities were naturally also affected by the COVID-19 pandemic, since it caused many delays in project implementation, which then also influences the timing of the IE. Therefore, a lot of activities that were initially planned for this year were postponed, although not all countries were equally affected and some projects showed good progress in their IE activities, including three primary data collections (baseline in Rwanda, endline in Malawi and baseline in Zambia). This year, the technical advice on implementation tracking and monitoring activities was intensified, accounting for the great importance of these activities for IE.

Since March 2020, no international travel happened under the LORTA programme. Instead, the LORTA teams switched to virtual solutions, for example by conducting short workshops and meetings over video conference software. It became evident that this kind of communication works fairly well.

In terms of internal organization of the LORTA programme, the categorization of activities into work packages and a clear definition of these work packages helped to reorganize the workload and allowed for more transparency and a better overview. This current work organization might be optimized even more during the next contract phase by simplifying and trimming it where possible, to ease understanding and being able to always

follow up on recent developments once the LORTA programme will cover 18 projects.

Still, the clear division of tasks between the LORTA team and the project teams remains a challenge and is handled on a case by case basis, which increases the risk of dissatisfaction on both sides. Clearer rules of when which work package will be performed are desirable (e.g. under which circumstances data will be checked only once data collection is finished compared to when will instant data quality checks conducted; or under whose responsibility the report writing falls). Although it will not always be possible to follow through with these rules, it might be good to follow e.g. a decision tree to allow for planning ahead and more transparency. This might also help to avoid situations in which the LORTA team comes in too late or did not receive important information in time.

Another positive achievement of this year in the collaboration with the project teams was the elaboration of a data sharing strategy, which is the basis for a clear and responsible sharing and working with the data for all parties. As a result, data has been shared between the project teams, the IEU and C4ED for several projects (which include Malawi, Madagascar, Uganda and Rwanda).

ANNEX I LORTA PHASE I ACTIVITIES

ANNEX II IMPACT EVALUATION DESIGN REPORTS

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