

# Sector-wide review of the development and use of methodologies and guidance for the monitoring and evaluation of forecast-based action

Learning paper | February 2020

**START**  
NETWORK

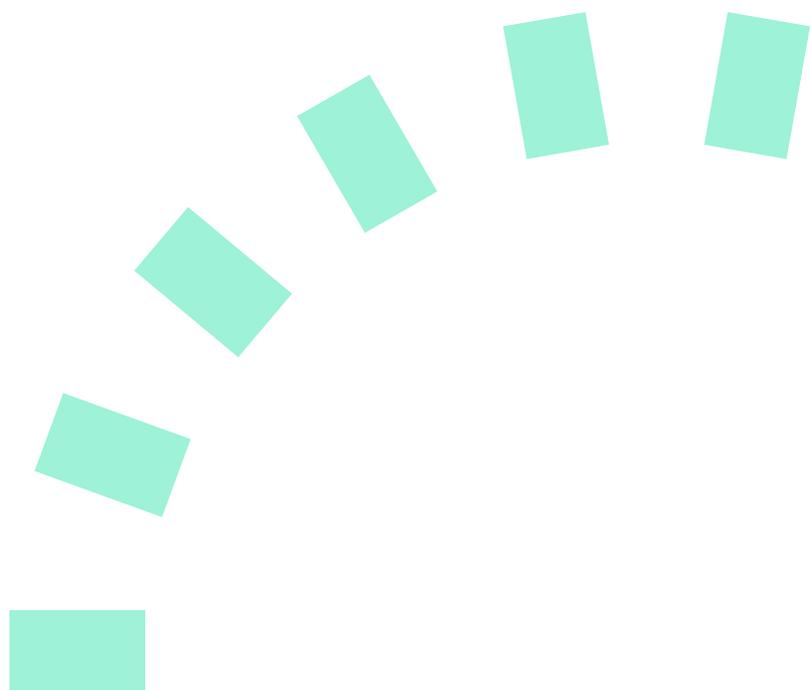


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## Acronyms

CBA	cost benefit analysis
DFID	Department for International Development
EAF	Early Action Fund
FAO	Food and Agriculture Organisation of the United Nations
FBA	forecast-based action
FBF	forecast-based financing
FCS	Food Consumption Score
IFRC	International Federation of Red Cross and Red Crescent Societies
M&E	monitoring and evaluation
MEAL	monitoring, evaluation, accountability, and learning
ODI	Overseas Development Institute
RCCC	Red Cross Red Crescent Climate Centre
rCSI	reduced Coping Strategies Index
ROI	return on investment
SCBA	social cost benefit analysis
SROI	social return on investment
ToC	theory of change
ToR	terms of reference
UNOCHA	United Nations Office for the Coordination of Humanitarian Affairs
VfM	value for money
WFP	World Food Programme

# EXECUTIVE SUMMARY

The Start Network and the Red Cross Red Crescent Climate Centre convene a working group of monitoring, evaluation, accountability, and learning (MEAL) practitioners active in the field of forecast-based action (FBA). Members include: Start Network, the Red Cross Red Crescent Climate Centre, Save the Children, CARE International, Christian Aid, FAO, IFRC, UNOCHA, Welthungerhilfe, WFP, and independent consultants. The group meets monthly to share methodologies, new studies, and learning on MEAL of FBA interventions.

FBA is a new approach to humanitarian assistance, using forecasts to trigger interventions before the onset of a hazard. Interventions are diverse with different responses depending on scale, context, and timing of forecasted hazards. As a nascent field, knowledge sharing on MEAL methodologies to improve FBA practice and build evidence on impact and cost effectiveness is an indispensable effort. This study was commissioned as a sector-wide review of the development and use of methodologies and guidance for the monitoring and evaluation of forecast-based action. It aims to support the MEAL of FBA practitioner group's efforts to collate methodologies, share what has and what has not worked, and ensure the sector uses rigorous evidence to learn and grow.

The study focuses exclusively on MEAL of *forecast-based action interventions*. Methodologies for evaluating funding mechanisms or long-term resilience programmes are outside the purview of this report. The study categorises guidance documents into two clusters focused on impact assessment and value for money assessment. Organisations take varied approaches to MEAL methods in FBA, designing systems to fulfil their evidence and learning needs. Just like FBA interventions, which can vary greatly depending on context and hazard type, MEAL systems are diverse.

The report explores convergence and divergence of methodological guidance and associated studies from members of the MEAL of FBA practitioner group. The pool of documentation gathered is analysed through three lenses: what is measured, how is it measured, and what can be learned. This three-pronged approach gives space for a deep dive into key components of methodologies including: research questions and counterfactuals, the use of participatory approaches and communicating uncertainty, and the application of learning to improve MEAL systems and FBA practice, among other topics.

Key areas of commonality in MEAL frameworks emerge. In *What is measured?* shared approaches to attribution, selection criteria for comparison groups, and harnessing the power of country office knowledge to contextualise research design are detailed. Common indicator themes and guidance on the importance of transparency in value for money (VfM) calculations are key components that weave a common thread through the methodologies.

There is greater similarity in the focus areas analysed in the section *How is it measured?* All guidance builds from a theory-based research design, the unit of analysis is the household for impact assessments and programme for VfM assessments, participatory approaches are encouraged but are yet to be fully implemented in MEAL systems, two-stage data collection is recommended but yet to be widely used, and there is unified consensus that communicating uncertainty and transparent reporting is vital to build trust in evidence.

In *What can be learned?* the section explores how MEAL of FBA practitioners consider their methodologies and guidance to be “living documents”. Documents remain open to an iterative process of improvement as feedback builds from implemented studies. Guidance on lessons learned converge on recommended methods to apply learning to improve FBA practice through feeding evidence back to the beneficiary community, to refine FBA design and delivery, and to promote knowledge exchange in the wider anticipatory humanitarian action community.

The documents reviewed in this study detail different approaches to MEAL that meets the needs of each organisation, however, shared pillars of practice and guiding points emerge.

Two central pillars:

1. The most important metric is whether FBA positively impacts the lives of beneficiaries.
2. The most essential practice is transparent reporting of results and uncertainty to build trust in evidence.

Four guiding points:

1. Strike a balance between technical rigour and feasibility.
2. Ensure comparison groups are appropriately identified to allow for clear attribution of impact to the FBA intervention.
3. Never compare VfM analysis across contexts.
4. Share specific, transparent documentation of assumptions.

The report concludes with reflections on areas for growth and improvement that will support more rigorous MEAL systems in the burgeoning field of FBA. Key reflections highlight the need to explore different counterfactuals in research design and utilise more rigorous qualitative methods and participatory approaches in MEAL systems. As forecast models are refined and agencies turn more attention and funding to FBA, MEAL systems must be in place to support utilisation-focused evidence collection. This report stands as a comparative review of current methods and highlights commonalities in methodologies and successes in the field in an effort to support the future work of MEAL of FBA practitioners to design and refine MEAL systems.

# BACKGROUND

Forecast-based action in the anticipatory humanitarian action sector is a disparate practice. FBA initiatives are diverse, requiring different approaches to action, scale, and timing based on type of hazard, funding availability, context, and scope of programme delivery. Despite this diversity, within the sector there is clear agreement that all actors want to more effectively use early warning information and forecast-based actions, to mitigate the impact of forecasted hazards on human lives.

FBA is a new approach to humanitarian action, that demands monitoring and feedback to improve service delivery as the sector develops. MEAL activities are nascent in FBA and there is considerable scope to learn and develop within existing, early-stage MEAL systems. MEAL activities should be designed to align with the common goal of the sector – to more effectively use information to lessen human suffering caused by forecasted disasters.

This study analyses commonalities and differences in existing MEAL methodologies and identifies rigorous approaches through an in-depth exploration of project documentation and grey literature. The study highlights progress and implementation in the sector to date. The study was commissioned to maintain a clear focus on MEAL methods for *forecast-based action*. During the review, guidance documents focused on evaluating funding mechanisms or assessment of long-term resilience programmes were regarded as out-of-scope and excluded from the study. The report identifies what is measured by different guidance documents, how studies are conducted, and how evidence and learning can improve FBA practice.

## Study objectives

The report is focused on documenting the experience of members in the MEAL of FBA practitioner group, co-facilitated by the Start Network and the Red Cross Red Crescent Climate Centre. The purpose of the study is to provide a comparative analysis of areas of convergence and divergence in MEAL methodologies used by practitioner group members. The aim of this report is to explore what has and has not worked in MEAL of FBA, for shared learning in a growing field that needs robust evidence to promote and improve practice. A recent study from the Overseas Development Institute (ODI) echoes this call to examine methodologies behind MEAL systems for continued growth and success of the FBA sector: “Given the substantive gaps identified in this [ODI] report, greater investment is needed in robust monitoring, evaluation and learning on anticipatory action. Without this, and a clear agenda for enhancing the evidence base to improve future policy and programming, the humanitarian system will continue to struggle to meet needs” (Weingärtner et al., 2019).

In the two sections – *What is measured?* and *How is it measured?* – components of MEAL methodologies are identified and the application of these methodologies in published evaluations are used as examples. The study showcases particularly robust approaches to FBA impact assessment. To achieve this, it required parsing apart the varied interventions in the sector and the varied evidence and learning needs required by donors and implementers. In the section – *What can be learned?* – the study aims to identify strategies that produce useful evidence for learning and methods for iterative improvement to MEAL methodologies. The *Reflections* section proposes a way forward for improvements to MEAL systems with a specific focus on delivering useful evidence and learning to grow the FBA sector

# Methodology

The study largely relied on a review of grey literature provided by members of the MEAL of FBA practitioner group. The MEAL of FBA practitioner group is comprised of a range of members including representatives from the Start Network, the Red Cross Red Crescent Climate Centre, CARE International, Save the Children, Christian Aid, FAO, IFRC, UNOCHA, Welthungerhilfe, WFP, and independent consultants. All members were invited to share guidance documents and associated studies for review.

## Analysis approach

The analysis approach focuses on detailing what has worked, what has not worked, and identifying good-quality MEAL approaches that are replicable based on three criteria:

1. The methodology is transparent and analytically robust.
2. The methodology is implementable with existing capacities.
3. The results are utilisation-focused and contribute to learning.

The study follows the areas of inquiry defined by the terms of reference taking a comparative analysis approach in review of methodologies. Areas of inquiry are grouped under three lenses for analysis.

### Lens I – What is measured in the guidance documents?

Lens I compares and contrasts what guidance documents set out to measure and why. This takes on a two-sided approach looking at the type of FBA intervention the guidance is designed to assess as well as the type of evidence and learning it aims to capture. Lens I studies where organisations converge in approach and why divergence may exist. The following elements are explored under this lens: research questions, contextualising research design, counterfactuals and sampling, attribution, measurement of things that do not happen, value for money, and common indicators.

### Lens II – How are studies conducted?

Lens II explores methodological features from guidance documents and contextual application through published studies. Methodological components compared include: research design, participatory approaches, timing of studies, and communication of uncertainty. Through comparing and contrasting how different guidance documents approach these elements, with applied examples from studies, the report outlines robust and implementable practices.

## Lens III – How do guidance documents and studies make use of MEAL for learning to improve FBA practice and to improve MEAL systems?

Lens III focuses on why MEAL work is important, especially in a new approach to humanitarian assistance, and what can be learned. Analysis explores how organisations intend to make use of their evidence linked to the two learning agendas: learning to improve FBA programming and learning to improve MEAL practice.

During the inception process, key evaluation questions were defined to meet the needs of the study, interest from MEAL of FBA practitioner group members, and questions from existing literature. The research questions detailed below provided the analysis framework for document review and key informant interviews. The report is organised around the three-lens framework and associated areas of focus.

Framework	Area of Focus	Research Questions
What is measured?	Research questions	Are there are common research questions or research themes that appear in the FBA sector? How do different organisations apply these themes?
	Contextualising research design	How have different approaches been contextualised for different hazards, geographies, scale of FBA, and levels of MEAL capacity?
		What specific guidance is provided to contextualise research design? What are the implications of this adaptation?
	Counterfactuals	What are the merits of different counterfactual approaches?
		What are the implications of counterfactual selection?
	Attribution	How do guidance documents approach attribution of impact to FBA interventions?
	Measurement of things that do not happen	What approaches have been taken to measure impact of avoided damage/loss?
		What are common practices to capture and value impact of 'no change' beyond comparison to a non-beneficiary control group?
Value for money	What different approaches do organisation recommend for value for money assessment: ROI, CBA, SCBA?	
Common indicators	Do guidance documents have a set of core indicators that are used across evaluation of different FBA interventions? If not, why not?	
How is it measured?	Research design	In what contexts are different approaches recommended: theory-based approach vs experimental design, mixed-methods?
	Unit of analysis	What is the main unit of analysis? How is data collection structure to facilitate capturing the required data?
	Participatory approaches	To what extent do guidance documents incorporate quality participatory approaches to MEAL? At what stage in the MEAL process?

		How do participatory approaches mirror engagement in intervention design?
	Timing of studies	When are organisations collecting MEAL information?
		What determines timing of studies? What are common practices?
	Communicating uncertainty	How do guidance documents approach communicating uncertainty?
<b>Framework</b>	<b>Area of Focus</b>	<b>Research Questions</b>
What can be learned?	Evolution of systems	How have FBA-specific MEAL systems evolved?
		Have distinctly different MEAL approaches been implemented and failed or proven not useful?
		Do organisations have plans for major changes to their current methodologies and guidance?
	Lessons learned	How do guidance documents cover lessons learned/integrate learning from MEAL activities?
		Is learning addressed through systems external to MEAL of FBA guidance? Are there formalised systems for learning?

Figure 1 Analysis framework

## Analysis methods

The analysis methods applied to this study were qualitative and predominately desk-based. The study is primarily comprised of a review of MEAL guidance documents and associated studies. Information gathered at the Global Dialogue Platform on Anticipatory Humanitarian Action 2019 provided secondary evidence on the current state of the FBA sector. Additional evidence was drawn from recordings of MEAL of FBA practitioner group meetings as well as supplementary key informant interviews with authors and representatives of MEAL guidance documents.

The document review focused on a range of MEAL methodologies, guidance, and associated studies submitted by MEAL of FBA practitioner group members. At the start of the consultancy, the Start Network raised an open call for group members to submit documents to be included in the study. By the submission deadline, twenty-seven documents were shared. All documents were systematically reviewed. A typology to classify documents was developed. The typology was used to identify literature pertinent to the study, with an emphasis to uphold the specific focus of the study: MEAL guidance for forecast-based action. Annex 1 lists all documents submitted for review and identifies guidance documents covered in this report.

The Global Dialogue Platform on Anticipation Humanitarian Action, held in Berlin 12-14 November 2019, brought together many actors in the anticipatory humanitarian action field. Information gathered during the Global Dialogue Platform, at formal and informal meetings with authors and representatives from organisations who submitted MEAL guidance documents, was included in the analysis for this report.

The Start Network and the Red Cross Red Crescent Climate Centre facilitate monthly discussions on monitoring and evaluation topics for the MEAL of FBA practitioners group. In six meetings, the MEAL

of FBA practitioner group has covered a range of subjects detailed in Annex 2. Recordings from these conversations provided supplementary information included in the study.

Interviews with key informants facilitated supplementary evidence gathering to support analysis for the study. Key informant interviews were used to triangulate and clarify information needed to fully address the identified research questions. Key informant interviews also focused on collecting information on the evolution of MEAL systems and learning practices, not explicitly covered in guidance documents. Key informant interviews were conducted by Skype, email, and in person at the Global Dialogue Platform. Annex 3 comprises a list of individuals interviewed.

## Study limitations

The study faced two main limitations: document submission and the early stage of the development of FBA-specific MEAL systems. While there was a solid pool of guidance and evidence for this review, in the coming years it is expected that the pool of resources will only grow and methodologies will be further refined and more rigorous.

The MEAL of FBA practitioner group is comprised of a range of members, including NGOs, UN agencies, and independent consultants. Group members were invited to submit documents to be included in the study. Not all responded by the deadline. During the intervening period, some organisations clarified that they have not yet produced formal guidance or published MEAL-related studies.

The mitigation strategy employed to minimise this limitation extended the initial deadline for document submission by two weeks, to the end of the Global Dialogue Platform to facilitate in-person requests for contributions to the pool of evidence. At the conclusion of the Global Dialogue Platform meetings, all MEAL of FBA practitioner group members were aware of the request for documents and had made best efforts to submit items for review. The list of documents in Annex 1 was verified at the MEAL of FBA practitioner group meeting held on 11 November 2019.

FBA remains a relatively novel approach to anticipatory humanitarian action. As such, MEAL systems are not yet fully developed by many organisations that have formalised approaches to monitoring and evaluation of other activities they fund and/or implement in the humanitarian assistance sector. There is yet to be any consensus within the sector on “best practices” or common MEAL approaches.

The terms of reference for this study acknowledges the early stage of development of MEAL methodologies for FBA. The mitigation strategy employed was to focus on the pool of existing documentation, still in its infancy, with an eye to highlight and recommend rigorous approaches and areas for improvement as tailored MEAL practices within the FBA sector mature.

# Progress and implementation

Practitioners are keen to demonstrate impact of FBA interventions in a rigorous, replicable way. They want to learn what works and what works best to minimise human suffering in the event of a forecastable hazard. Donors, governments, and in-country partners are keen to understand value for money trade-offs for supporting FBA. However, like FBA interventions, which are still novel, current MEAL methodologies, guidance, and associated studies have room for growth and learning.

If early action plans for FBA interventions exist, then MEAL plans can and should as well. MEAL should be integrated in the planning stages from theory of change development through to communicating and disseminating findings to donors, fellow practitioners, and beneficiaries. Actors in the MEAL of FBA practitioner group are currently pushing this comprehensive approach to MEAL forward to create systems that are implementable for local contexts and generate utilisation-focused evidence.

## State of MEAL of FBA

Current MEAL systems of MEAL of FBA practitioner group organisations can be categorised in three clusters.

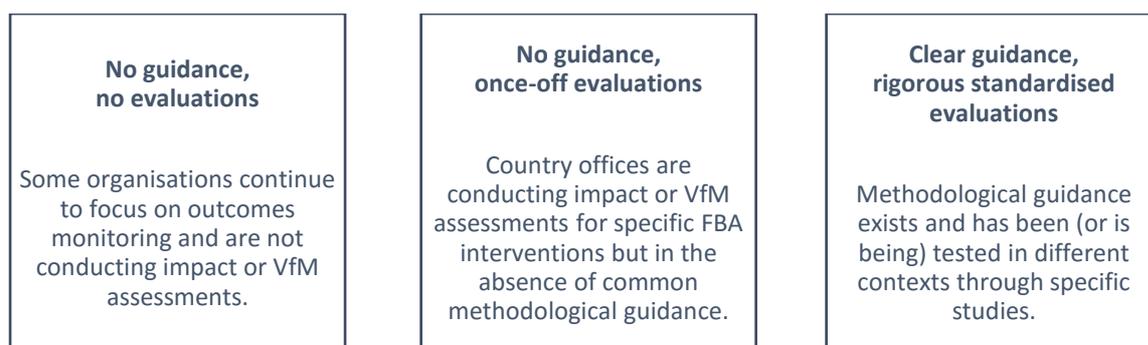


Figure 2 Current state of MEAL systems of MEAL of FBA practitioner group members

A recent study from the ODI, *The Evidence Base on Anticipatory Action*, documents the current state of evidence in the sector (Weingärtner et al., 2019). The ODI report found the evidence base for FBA to be thin and fragmented. It is important to note that it is still early in the production of rigorous evidence on FBA and testing of formalised MEAL systems and guidance. Through activities like the inter-agency knowledge sharing group of MEAL of FBA practitioners, the pool of evidence is building, rigour is improving, and most importantly useful, applied learning is being used to refine and improve FBA interventions.

## Challenges to MEAL of FBA

There are three main challenges to MEAL of FBA: the relatively new state of the FBA sector, the need to measure very different interventions in divergent contexts, and the availability of funding for MEAL activities. As outlined previously, it is early days in the FBA sector. Organisations need to adapt

traditional MEAL practices to the realities of FBA. This brings the challenge that certain hazards are more challenging to study than others and require an extensive adaptation of existing methodologies to capture evidence and learning. Sudden onset hazards place MEAL activities on a new timeline. Consequently, traditional approaches, such as collecting baseline data, might not be possible. Moreover, in some cases, such as FBA interventions focused on preventative measures, using baseline data to capture change does not yield useful evidence or learning.

Canvassing of representatives at the Global Dialogue Platform confirmed that many organisations have not yet been able to devote sufficient resources specifically to develop and test FBA-specific MEAL systems. Work is being completed alongside other activities, on reduced budgets. This slows progress for refining these MEAL frameworks.

Despite these challenges, some organisations have created well-defined guidance and published studies, which are moving the state of MEAL in FBA forward. These documents and evaluations comprise the core grey literature reviewed for this study. They are listed in Annex 1 and focus on the work of Christian Aid, FAO, Red Cross Red Crescent Climate Centre, Save the Children, Start Network, and UNICEF/WFP. The subsequent sections of this report will review methodological components of guidance documents and application in associated studies to explore: what is measured, how it is measured, and what can be learned.

# What is measured?

MEAL of FBA practitioner group guidance documents present MEAL systems that measure vastly different aspects of FBA interventions. Some approaches have produced useful learning and evidence, others have not. The main focus of FBA MEAL work has been to inform project design. Other drivers of research include: to gain knowledge to improve timing of delivery, to validate cost effectiveness of early action, to provide evidence for advocacy and donor fundraising, and to measure impact of assistance. MEAL frameworks cover a range of approaches from traditional VfM assessments to comprehensive mixed-methods evaluations with integrated lessons learned practices.

Guidance documents can be grouped into four categories:



Figure 3 Guidance document categories

This section will explore what is measured in MEAL guidance through comparing and contrasting components of existing MEAL systems.

Figure 4 Summary table of common elements in MEAL guidance frameworks, What is measured?

Area of focus	Common approaches
Research questions	<ul style="list-style-type: none"> <li>- Did the FBA intervention build resilience for households?</li> <li>- Did the FBA intervention lessen the immediate impact of the hazard?</li> <li>- Was the FBA intervention cost efficient?</li> </ul>
Contextualising research design	<ul style="list-style-type: none"> <li>- Champion country office knowledge</li> <li>- Create implementation-oriented guidance and field manuals</li> </ul>
Counterfactuals	<ul style="list-style-type: none"> <li>- Most commonly used counterfactual: action-no action, significant interest in early action-late action</li> <li>- Comparison group characteristics: did not receive assistance, were equally impacted by the hazard, and share similar demographic data</li> </ul>
Attribution	<ul style="list-style-type: none"> <li>- Use theory of change results chain to map attribution</li> </ul>
Measurement of things that do not happen	<ul style="list-style-type: none"> <li>- Impact assessment: fewer disaster impacts, lack of negative coping</li> <li>- VfM assessment: loss avoidance, avoided cost of post-hazard assistance</li> </ul>
Value for money	<ul style="list-style-type: none"> <li>- Ensure assumptions are transparently documented</li> <li>- Do not compare results across contexts</li> </ul>

- Common indicator themes: food security and livelihoods, household finance, health, programme-level data

## Research questions

Research questions guide recommended methodologies, some define a high level of specificity and others more broadly set up the MEAL framework. The specific research questions from the pool of guidance documents are fairly divergent, but mostly fall into three broad categories of common research questions. Research questions are detailed in full in Annex 4.

Common research questions
1. Did the FBA intervention build resilience for households?
2. Did the FBA intervention lessen the immediate impact of the hazard on households?
3. Was the FBA intervention cost efficient?

*Figure 5 Common research questions*

The distinction between measuring resilience (common research question #1) versus hazard impact (common research question #2) is one of the more notable differences in MEAL guidance. This difference highlights the divergent missions and goals of the MEAL of FBA practitioner group members, for example some organisations seek to explicitly build resilience, others to avoid losses. The research questions governing each methodology frame studies that can explore the most useful evidence and learning for their specific FBA interventions.

The three common research questions demonstrate the wide range of activities and intervention timelines encapsulated under “forecast-based action”. The wide scope of possible interventions to mitigate a wide range of forecastable hazards presents a challenge to identify common MEAL frameworks. A clear commitment on the part of MEAL of FBA practitioner group members to generate rigorous evidence with high quality standards is the driving force behind most commonalities. These components will be explored in depth in subsequent sections.

## Contextualised research design

Contextualising research design is essential to implement MEAL guidance in the varied contexts presented by different hazards, in different countries, at different scales, with different resource levels. Most guidance documents included in this review directly detail some method to contextualise research design, such as developing capacity-level suitable field manuals and championing country office knowledge, to enable both effective implementation of MEAL activities and elicit useful evidence at the conclusion of an assessment.

To address varied MEAL resource and capacity levels, a subset of methods includes field manuals to guide country offices in evaluation design and data collection. Save the Children’s guidance presents a “slimmest framework” for contexts with fewer resources to support MEAL activities and a complete field manual to guide these assessments (Barcena, forthcoming-b).

To contextualise research design for hazard type, location, and scale, most documents guide staff to rely on country office knowledge of the monitored environment. Country office knowledge is used to define the most applicable indicators for their specific context. FAO incorporates specific examples and guidance throughout each chapter of their toolkit to “stress the importance of adapting the process, methods and tools to each early action project” (FAO, forthcoming). FAO has had the opportunity to take contextualisation the furthest by systematically testing their methodology and tools in six countries with different contexts and somewhat different hazards.

Contextualisation needed	Common approach
For hazard type, location, scale	Champion country office knowledge
For resource and capacity levels	Implementation-oriented guidance and field manuals

Figure 6 Common methods to contextualise research design

The Start Network takes a different approach to contextualising research design. The Start Network’s thought framework argues that, “methodologies which could require us to remove the context before we can learn general lessons are the least likely to generate useful learning for improving humanitarian response” (Levine et al., 2017). The strength of the Start Network’s thought framework is that it can be applied across different contexts while enabling Start Network member organisations to produce studies guided by common themes. In contrast, other organisations interviewed report successfully adapting research frameworks to contexts using country office knowledge to contextualise research design at the outset of the MEAL activity.

## Counterfactuals

In most contexts, organisations do not have baseline data on the community supported by the FBA intervention they seek to evaluate. Due to the timeline for FBA implementation, in both slow and sudden onset hazards, collecting baseline data is often not feasible, thus counterfactual selection drives research design. Two main counterfactual pairings are the focus of discussions and studies in the MEAL of FBA practitioner community: action-no action and early action-late action.



The majority of reviewed methodologies measure impact by comparing action to no action. Each organisation details their own process for comparison group creation based on randomised selection. Counterfactual and sample selection approaches are detailed in Annex 4. Most organisations are aligned in their guidance on comparison group selection – **the comparison group must be comprised of households who did not receive assistance, were equally impacted by the hazard, and share similar demographic data or ideally fit the original targeting criteria**. By design, this is a rigorous way to isolate impact of an FBA intervention. The design holds all other aspects constant so change in the monitored indicators can be attributed to the FBA activity, while minimising bias and error. In reality, selecting a directly comparable, non-experimental control group is challenging. This is challenging in

any setting and even more so in FBA where shorter MEAL implementation timelines can require rapid listing and selection, high intervention coverage can limit the pool of appropriate control group households, and hazard effects cannot always be accurately estimated prior to the event.

Organisations recommend methodological techniques to minimise differences between beneficiary and counterfactual groups. One technique the Red Cross Red Crescent Climate Centre has employed is propensity score matching, when sufficient demographic data was available. Propensity score matching identifies and retains comparable households in the sample, which reduces bias and increases accuracy (RCCC, 2019).

Others use narrow sample selection criteria to select comparable groups. FAO recommends fairly stringent criteria for sample selection at the outset:

- *Beneficiary households must have received assistance only from the early action project during the project duration as well as in the months preceding the start of the project.*
- *Non-beneficiary households must not have received assistance from other organisations during the project duration as well as two to three months prior to project start.*
- *Beneficiary and non-beneficiary households must have been affected by the same hazard, and with the same intensity.*
- *Beneficiary and non-beneficiary households must have similar socio-economic conditions (FAO, forthcoming).*

When these criteria were applied in studies, FAO noted that in some cases the study struggled to identify a sample sufficiently large to provide statistically significant results. This challenge was echoed by the Start Network in sampling for the *Mongolia Anticipation of Harsh Winter 2018 -2019 Impact Assessment* (Start Network, 2019c). While not yet an existing challenge, the Start Network has begun thought work around how to design a counterfactual when an FBA intervention reaches 100% coverage of a population.

- i. Households owning between 100 and 300 Sheep Forage Units (SFU);*
- ii. Single-parent households, particularly with large families (4+ children);*
- iii. Households receiving limited or no benefits from the Mongolian Social Welfare Fund;*
- iv. Households lacking access to markets;*
- v. Households with official herder household stamp and certificate;*
- vi. Households with low hay/fodder reserves;*
- vii. Households that have been practicing pastoralism for over 3 years;*
- viii. Households in Foot-and-Mouth disease free areas;*

*Figure 7 Example criteria for comparison group selection used in an FAO study, where the selected control households complied with targeting criteria used for beneficiaries (FAO, forthcoming)*

Most guidance documents recommend some method of multi-stage clustering for cost effectiveness when implementing data collection. Others go further to recommend stratifying sample selection to obtain a sample population that best represents the overall population, which reduces sampling error and improves the precision of the sample. These approaches are outlined in Annex 4. **The key guidance shared by many MEAL of FBA practitioners is to strike a balance between technical rigour and feasibility.** If systems are overly complex, only implementable by external social scientists, or too

resource intensive, they will never yield the learning needed to improve FBA delivery or produce evidence to demonstrate impact.

## Attribution

Utilisation-focused impact assessment requires design that allows the driver of change to be specifically attributed to the policy, programme, or activity under evaluation. All MEAL of FBA practitioners recommend very similar guidance to attribution: use a theory-based approach for research design. Guidance documents recommend developing MEAL systems and designing research frameworks at the outset alongside developing the theory of change. Through a process of mapping the theory of change results chain, isolating causal linkages in the chain, and identifying indicators to measure change, MEAL guidance documents detail clear frameworks that allow studies to attribute impact to FBA interventions.

**TRAINING ♦ INCREASED KNOWLEDGE ABOUT COMPOST PRODUCTION ♦  
INCREASED PRODUCTION OF COMPOST ♦ INCREASED APPLICATION OF COMPOST ♦  
IMPROVEMENT IN SOIL FERTILITY ♦ INCREASED YIELD.**

Figure 8 Causal chain example from the Start Network's How to Assess the Impact of Drought Risk Financing Facility: A Guide (Levine et al., 2017)

The Start Network's impact study on the potential roles for FBA in response to the threat of floods in Bangladesh employed a theory-based approach to attribution. Initial steps in setting up the MEAL framework had researchers identify the project's implicit theory of change for being early: "If households had more money before they were displaced by the floods, then they would be able to take different, and better, measures to mitigate problems from the flood" (Start Network, 2019a). The Start Network then analysed the programme theory to link "the problem" to "the response" to "the assessment" to arrive at five questions used to guide the assessment.

### The Problem

- People need resources to make preparations for the drought.
- Lack of sufficient resources means they cannot make effective preparations.
- As a result of ineffective preparations, they suffer unnecessary economic losses.

### The Response

- By relying on forecast, the project can ensure that people receive the grant earlier.
- People who receive the grant earlier will have enough resources to make effective preparations.
- This will result in recipients suffering less economic loss than they would have done without the grant.

### The Assessment

- What resources did people have? From where?
- What preparations did they make for the flood?
- How did this change if they had more resources?
- Did different preparations result in different outcomes (e.g. costs, economic losses, etc.) for people?
- What difference did extra resources (from any source) make on their outcomes?

Figure 9 Example attribution exercise, linking problem to response to assessment (Start Network, 2019a)

The Red Cross Red Crescent Climate Centre published a useful, intuitive tool for mapping an FBA intervention’s theory of change and using the outputs, outcomes, and goals to build a monitoring and evaluation plan. The *FbF M&E Plan* tool outlines indicators linked to each segment of the log frame and guides the user to detail the following components for the MEAL plan (RCCC, 2019).

M&E Plan: [Country Name] [FbF Programme/Project Name] [Start date - end date]					
INDICATOR	INDICATOR DEFINITION (& unit of measurement)	DATA COLLECTION METHODS / SOURCES	FREQUENCY & SCHEDULE	RESPONSIBILITIES	INFORMATION USE/ AUDIENCE

Figure 10 Example from the Red Cross Red Crescent Climate Centre’s M&E planning tool (RCCC, 2019)

This tool is a practical guide to plan MEAL systems from log frame inception to evidence dissemination. It is a transparent approach to map how change can be attributed to specific activities of an FBA intervention.

## Measurement of things that do not happen

FBA interventions by design seek to minimise the impact of a pending hazard and decrease human suffering. Impact studies must then be designed to measure things that “did not happen” to the beneficiary group. The approach to measuring things that do not happen is directly addressed by some organisations. Methods take different forms from capturing the absence of negative impact to the avoided cost of post-hazard assistance.

Type of study	Common “things that did not happen” measured
Impact assessment	<ul style="list-style-type: none"> <li>- Fewer disaster impacts</li> <li>- Lack of negative coping strategies</li> </ul>
Value for money assessment	<ul style="list-style-type: none"> <li>- Loss avoidance</li> <li>- Avoided cost of post-hazard assistance</li> </ul>

Figure 11 Common “things that did not happen” measured in MEAL of FBA practitioner guidance

The Red Cross Red Crescent Climate Centre’s *FbF M&E Guide* addresses the measurement of things that do not happen from the outset with the research question: “Did households who were assisted through forecast-based actions experience fewer disaster impacts than households who did not receive this type of early help?” (RCCC, 2019). The research framework is designed to isolate and evaluate the absence of a negative impact as a result of FBA.

A common element evaluated by multiple organisations is the beneficiary group’s lack of (or reduced) need to use coping strategies post-hazard. The Start Network’s *ARC Replica Learning Tool* looks closely at measuring harm and losses avoided in two of their key research questions: “Were humanitarian outcomes relatively less than those areas where early intervention was not undertaken? Were people supported to avoid negative coping mechanisms and enhance positive ones?” (Start Network, 2019b). In assessing coping mechanisms, the Start Network, like other organisations, seeks to measure something that did not happen as a result of an FBA intervention.

FAO provides guidance to value losses avoided and has measured animal mortality and survival rates in studies. In the *EWEA Country Toolkit*, FAO presents examples of potential added benefits and

avoided losses that could be explored by sector. An extract from this example is shown below. In interviews, FAO clarified that the purpose of the valuation exercise is not to compare cost savings across different contexts, but to provide a learning exercise to understand the impact of loss avoided for surveyed households.

Sector	Hazard	Targeted livelihood group	Early action(s)	Added benefit(s)	Avoided loss(es)
Crops	Drought	Smallholder farmers	Early distribution of water equipment (e.g. water pumps, micro-irrigation kit)	- Value of additional time available for other activities (instead of water collection) - Reduced use (and cost) of water	- Avoided crop production loss
Crops	Drought	Smallholder farmers	Distribution of drought-resistant, diversified seeds	- Higher value of newly introduced crops (e.g. vegetables)	- Avoided crop production loss
Crops	Flood	Smallholder farmers	Distribution of flood resistant seeds; distribution of early maturing varieties		- Avoided crop production loss

Crops	Flood	Smallholder farmers	Reinforcement of banks and built barriers at critical flood points		- Avoided crop production loss - Avoided damage to assets (e.g. storage facilities, machinery)
Crops	Typhoon/Hurricane	Smallholder farmers	Transportation of agricultural equipment and machinery to safe havens		- Avoided damage to agricultural assets

Figure 12 FAO's EWEA Country Toolkit presents possible added benefits and avoided losses to measure for the crops sector. FAO guidance details examples for additional sectors including: livestock, forestry, and fisheries (FAO, forthcoming).

FAO also presents guidance for calculating the avoided cost of assistance by collecting data on the number of people who did not need assistance or had a reduced need post-hazard (supported by the FBA activity) and the cost of assistance per household. FAO staff reflect that while the results of this line of analysis would never be applied to evaluate FBA interventions across contexts, it has been a useful learning exercise to unpack the measurement of things that did not happen.

## Value for money

A subset of the guidance included in this study details specific methodologies to evaluate value for money of FBA projects. The VfM methods include traditional return on investment (ROI) analysis, cost benefit analysis (CBA), and social cost benefit analysis (SCBA).

UNICEF/WFP commissioned the Boston Consulting Group to produce an ROI study on emergency preparedness. The methodology presented takes a traditional approach to ROI and links subjective choices within the ROI model to industry standards. For example, a discount rate of 10% is selected, corresponding to the discount rate used by DFID (Boston Consulting Group, 2015).

FAO's guidance document comprehensively assesses impact through qualitative and quantitative methods as well as ROI. The guidance recommends including all programme and support costs related to the project in ROI calculations. The research question behind FAO's ROI analysis is to determine if the cost of the intervention outweighs the benefits. It is not employed as a tool to compare across interventions (FAO, forthcoming).

Save the Children's *Social Cost Benefit Analysis of the Early Action Fund* details a "forecastive" methodology for SCBA of interventions supported by their Early Action Fund. The forecastive methodology explores three hypothetical scenarios based on hazards constructed using historical data and expert knowledge.

- Scenario 1: Early action does not take place but crisis does occur, humanitarian response required.
- Scenario 2: Early action does take place, crisis does occur, humanitarian response still required but smaller scale.
- Scenario 3: Early action does take place, crisis does not occur (Atkinson, 2018).

The methodology details how to value economic and non-economic indicators, using proxy valuations from secondary sources for non-economic indicators unique to FBA. After indicators are valued, the guidance recommends standard CBA methods. The Start Network applied this guidance to a case study on an FBA intervention on the anticipation of cholera in Malawi. The Start Network found it a useful exercise for planning early action intervention but less applicable to analyse impact at the completion of an intervention without further data collection to confirm project impact.

All organisations with guidance on VfM calculations note that to complete any VfM assessment in the FBA sector analysis must rely on proxy indicators, secondary sources, estimations, and expert knowledge. **All acknowledge that this requires using assumptions and urge specific, transparent documentation of assumptions.** VfM calculations are never an exact science in any field, more so in FBA where many assumptions are required to value components of the analysis. Save the Children's *Social Cost Benefit Analysis of the Early Action Fund* provides an excellent example of how to transparently detail proxy values and source (Atkinson, 2019).

Common guidance for VfM assessment
Do ensure assumptions are transparently documented
Do not compare results across contexts

Figure 13 Common guidance for VfM assessment

**The majority of MEAL of FBA practitioners maintain that the most important metric in evaluation is whether FBA positively impacts the lives of beneficiaries. They believe VfM analysis can be a useful tool to examine financial elements of FBA activities, but should never be compared across contexts. Value for money analysis can never tell the complete story of an FBA intervention.**

## Common indicators

Common indicators have yet to emerge in MEAL of FBA. Most organisations are firmly against prescribing indicators for evaluations because of the varying nature of FBA interventions and the principle of championing country office knowledge. MEAL of FBA practitioners are, however, interested in exploring common frameworks and themes to facilitate sector-wide evidence and learning.

Guidance documents generally identify types of indicators useful for learning but do not outline a specific, required set of indicators to be used across all contexts. FAO notes that some pre-established indicators are repeatedly featured in their studies, such as reduced Coping Strategies Index (rCSI) and Food Consumption Score (FCS), however, even within the FBA context, comparison across studies using similar indicators is non-meaningful. To enable comparison across contexts, indicators would need to be standardised and this is yet to be included in any methodological guidance. Christian Aid clusters indicators under a set of resilience buffers (Ewbank, 2016). This method is useful to frame conclusions and build out learning, but again is not used to compare indicator results across FBA interventions.

While there is no interest to generate a prescribed set of common indicators, common themes and areas of focus can be found across guidance documents. The table below details indicator categories described in each guidance document. Annex 5 shows a second level of detail, describing each of the indicator categories summarised in the table below.

Patterns of convergence emerge when looking across the pool of guidance. All include some measure of food security and livelihood outcomes. Guidance focused on value for money – UNICEF/WFP’s ROI analysis, Save the Children’s SCBA guidance, and FAO’s ROI guidance – include programme-data focused indicator categories. Secondary thematic areas cluster around assessment of the impact of FBA interventions on health and economic outcomes.

Figure 14 Suggested indicator categories by guidance document

Christian Aid	RCCC	FAO	Save the Children	Save the Children	UNICEF/WFP
<i>Measuring Resilience Impact at Programme and Project Levels</i>	<i>M&amp;E of FbF – A Practical Reference for Country-level Implementation</i>	<i>EWEA Country Toolkit – Analysing the Impact of Early Action</i>	<i>Methodology to Assess the Effectiveness of Early Action Funds</i>	<i>Social Cost Benefit Analysis of the Early Action Fund</i>	<i>Return on Investment for Emergency Preparedness Study</i>
<i>Possible asset buffers to measure</i>	<i>Common indicator categories to measure FBA impact</i>	<i>Possible types of data to collect to measure FBA impact</i>	<i>Common indicators to evaluate EAF interventions</i>	<i>Social benefit indicators to consider in SCBA</i>	<i>Areas to consider in ROI analysis</i>
Social capital	Livelihoods	Food security	Livelihoods	Livestock	Qualitative benefits
Natural assets	Shelter and housing	Vulnerability	Social capital	Food consumption	Cost savings
Human capacity	Assets	Agriculture	Physical capital	School attendance	Time savings

Financial capital	Health and well-being	Household profile	Coping capacity	Dietary diversity
Physical assets		Agricultural performance	Economic capital	Income
		Impact of forecasted hazard on households	Debt	Access to clean water
		Perceptions of beneficiaries about project impact	Human capital	Project costs
		Prices		
		Household finance		
		Hazard		
		Project implementation		
		Project costs		
		Project information from beneficiaries		

Theme	Colour	Key
Food Security and Livelihoods		
Economic		
Health		
Programme-level		

Common indicator themes may provide a useful structure to think more broadly about the evidence of impact from existing studies. All MEAL of FBA practitioners caution to not lose sight of the importance of local specificity in indicator selection nor to ignore the significant role of vastly different contexts when comparing across indicators. However, grouping indicator categories by theme and using tested indicators, such as rCSI and FCS, does allow for confidence and familiarity in learning, which can be a useful tool to garner support and refine practices in the FBA sector.

# How is it measured?

MEAL of FBA practitioner group guidance recommends different methods of how to measure impact and VfM of FBA interventions. Some approaches are more broadly applicable to diverse FBA contexts, others more rigorous, and others more insightful to produce useful learning.

The methodologies reviewed in this section fall into two groups:

1. Comprehensive, rigorous MEAL systems adaptable for slow and sudden onset hazards.
2. MEAL systems designed to be implemented on a longer time scale in slow onset response settings.

Context and level of capacity for MEAL implementers is a fundamental component of how the impact of an FBA intervention is measured. This is explored throughout the section. Unlike the areas of focus in *What is measured?* which capture significant difference because of the wide range of hazards organisations respond to, more commonality can be found in the *How is it measured?* section. MEAL of FBA practitioner group members are committed to producing rigorous guidance and thus recommend similar, robust methodologies on how to conduct MEAL activities.

Figure 15 Summary table of common elements in MEAL guidance framework, *How is it measured?*

Area of focus	Common approaches
Research design	- Theory-based approach
Unit of analysis	- Impact assessment: household - VfM: programme
Participatory approaches	- Important, but not yet implemented - FBA interventions designed in tandem with communities, but communities are not yet engaged with MEAL design
Timing of studies	- Common interest in two stage data collection, post-hazard and longer-term follow up
Communicating uncertainty	- Transparent reporting of uncertainty builds trust in the pool of evidence currently being generated in the sector

## Research design

The foundation of research design is very similar across all guidance included in this study. As discussed in the section on attribution, all impact assessment guidance takes a theory-based approach. From this starting point, guidance documents diverge. Organisations like the Red Cross Red Crescent Climate Centre and FAO present comprehensive MEAL systems linked with stages of FBA programme planning, while the Start Network details a thought framework to guide and unify studies conducted by their members. Each approach fits the evidence and learning needs of the organisation.

Most guidance documents rely on quantitative methods for data collection but some present mixed-methods research designs. In interviews, all representatives acknowledged the importance of

rigorous qualitative research to provide contextual information. A subset of guidance documents includes qualitative methods, where qualitative findings are applied to triangulate quantitative results. Qualitative methods are repeatedly presented in this manner, to support and inform quantitative research but not as a rigorous, stand-alone method.

The *Evidence Base for Anticipatory Action* from ODI aptly summarises the pool of existing MEAL studies on FBA interventions:

*Of the 25 studies reviewed, 15 focus on or include a CBA, cost-effectiveness, VfM or ROI components. In assessing the outcomes of A-A [anticipatory action], seven out of the 15 empirical studies compare anticipatory interventions against a control group that received no intervention. Others attempt to estimate a counterfactual of later humanitarian response or construct a scenario where action was taken but the anticipated hazard or impact did not materialise... Alternative scenarios where different types – or combinations – of anticipatory actions are considered are also lacking, as are considerations of the various opportunity costs of a particular intervention...*

*In terms of country focus, studies have been conducted in over 16 countries, but most countries have only been subject to one or two studies (Ethiopia, Kenya and Bangladesh seem to be the exceptions). A diverse range of actions has been evaluated in different contexts, further limiting the generalisability and comparability of results (Weingärtner et al., 2019).*

The pool of evidence reviewed by ODI found roughly half of the studies used quasi-experimental design and more elaborate statistical testing for robust attribution of impact to the FBA intervention assessed. The remaining half used control groups but did not statistically test differences in outcomes between beneficiary and control populations. One study was based on qualitative data without control groups (Weingärtner et al., 2019). As MEAL systems develop it is likely the proportion of studies using quasi-experimental design and rigorous statistical testing will grow.

## Unit of analysis

Despite variations in level of rigour in research design, most MEAL of FBA practitioner guidance use the same unit of analysis for impact assessments and for VfM analysis. Value for money analysis requires the use of programme-level data on budgets and outcomes to complete calculations. This information is usually readily attainable from country and head offices and does not require additional data collection beyond secondary sources.

The unit of analysis for impact assessment guidance is predominately the household. Methodologies recommend collecting data through household surveys, detailed in Annex 4. Conducting household surveys in the context of FBA presents unique challenges. Organisations note that it can be challenging to capture sufficient sample sizes. Post-hazard conditions can put significant constraints on implementation of data collection. Short timelines and tight budgets leave little room for monitoring and evaluation-related capacity building.

Despite challenges, household survey data provide the richest information on the impact of FBA interventions. Some note that focusing on household-level impact may fail to capture benefits shared at the community level; well-constructed survey questions should be able to capture community-level impacts. Similarly, well-constructed recall questions – using known time-markers and maintaining time frames throughout the survey tool – can be used to capture pre-hazard conditions useful for analysis (RCCC, 2019).

## Participatory approaches

Participatory approaches have yet to be piloted or implemented in a meaningful way in MEAL methodological guidance or associated studies. There is consensus that constraints due to the short time windows to mobilise FBA and implement MEAL activities make genuine participatory approaches a challenge.

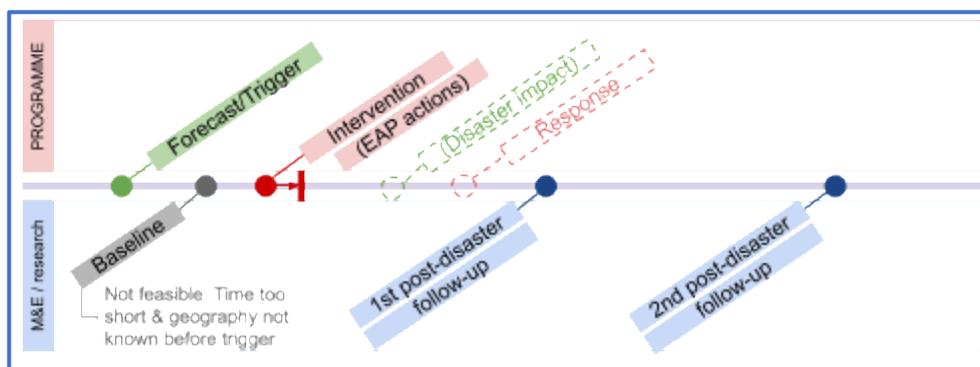
Most organisations utilise intervention design to inform research design and most are using participatory approaches in the intervention design phase. As a result, **MEAL systems are built around interventions designed in tandem with communities, but communities are not engaging directly with elements of MEAL design** through activities such as defining indicators and household criteria.

Efforts are made to feed evidence and learning back to beneficiaries, however, formal guidance on how to conduct learning exercises with communities is still forthcoming. There is great room for growth and improvement in this area.

## Timing of studies

The timing of studies presents a challenge in MEAL of FBA interventions. To capture impact, multi-stage data collection over an extended period of time is needed to assess immediate and long-term effects of FBA interventions. FBA interventions are, however, frequently short-term. This makes it a challenge, and often a non-priority, to return to communities for long-term studies. The Red Cross Red Crescent Climate Centre recommends immediate data collection in the four to six-week period after conditions have normalised, followed by a long-term follow up six to twelve months later (RCCC, 2019). FAO suggests a more rapid timeline, collecting data as soon as possible after the hazard aligned with agriculture activities (the focus of the majority of their FBA interventions) when possible (FAO, forthcoming).

The timeline of early data collection to assess immediate effects and a secondary follow up to capture resilience and ability to absorb shocks is a methodologically robust structure for timing of studies. However, published studies on FBA have yet accomplished this due to short timelines and little-to-no resources for longer term studies. In-depth impact assessments with multi-stage data collection would provide useful evidence and learning for the FBA sector, but, similar to the guidance given on counterfactuals and sampling, organisations must balance technical rigour with feasibility.



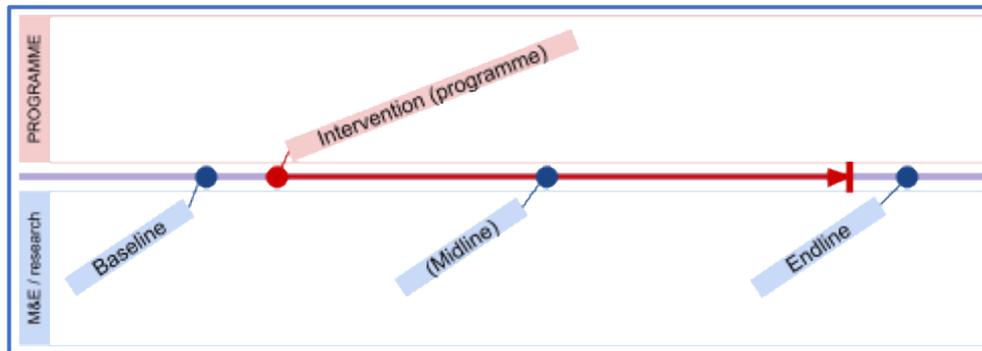


Figure 16 Comparative timelines of programme and M&E milestones for a typical FBA intervention and a development programme (RCCC, 2019)

Save the Children and Christian Aid have implemented longer term studies following a similar MEAL timeline of more conventional, development programmes due to the nature of the FBA activities they implement and monitor. Save the Children recommends structuring MEAL activities around a monthly cohort study (Barcena, forthcoming-b). This approach is only possible for evaluating a long-term response in a context that is well-resourced. It is not applicable in many FBA settings. Annex 4 details recommended timing of data collection from guidance documents.

## Communicating uncertainty

Communicating uncertainty is essential in monitoring and evaluation activities, especially MEAL of FBA. **Transparent reporting of uncertainty builds trust in the pool of evidence currently being generated in the sector.** Impact assessment guidance included in this study rely on sampling from beneficiary and comparison populations with self-reported household data. By design this introduces error, bias, and uncertainty in any study. Within the FBA practitioner group, there is consensus that reporting should explicitly address error margins and confidence intervals.

The Red Cross Red Crescent Climate Centre and FAO both encourage scientific reporting of uncertainty in results. The forthcoming study from the Red Cross Red Crescent Climate Centre, *Effects of Providing Forecast-based Cash and Animal Care Kits to Vulnerable Herder Households During the 2017-2018 Dzug Season in Mongolia: Impact Survey Results*, presents a clear example of how this guidance is applied (RCCC, forthcoming).

The VfM approaches presented by MEAL of FBA practitioner group members all require subjective selection and valuation of certain figures in calculations. FAO details guidance on how to conduct sensitivity analysis for ROI calculations by using value ranges in calculations (FAO, forthcoming). This is a recommended best practice in the VfM field as it increases external confidence by clearly conveying underlying assumptions and uncertainties.

Guidance documents do not detail methods for communicating uncertainty for qualitative data, which is equally as important as communicating uncertainty for quantitative household data and economic programme data. This is a repeated theme in the lack of rigour surrounding qualitative methods used in FBA impact assessment.

# What can be learned?

Well-designed monitoring, evaluation, and accountability systems produce useful learning, the ultimate goal of any MEAL activity. With many organisations still developing and refining their approach to FBA, tailored learning is an essential component to support efficient and effective systems for anticipatory action. Two streams of learning can be drawn from MEAL evidence: learning to improve MEAL systems and learning to improve FBA practice.

Figure 17 Table of common elements in MEAL guidance framework, What can be learned?

Area of focus	Common approaches
Evolution of systems	<ul style="list-style-type: none"> <li>- Early stage development of MEAL systems specific to FBA</li> <li>- “Living documents” with iterative process of improvement for guidance</li> </ul>
Lessons learned	<ul style="list-style-type: none"> <li>- Important uses of learning: to feed evidence back to community, to improve internal FBA design and delivery, and to promote knowledge exchange and learning within the FBA community</li> </ul>

## Evolution of systems

Guidance documents included in this study do not detail procedures to review FBA MEAL systems for FBA practice. Organisations do have non-formalised, iterative review processes from which methodologies and guidance have evolved, and continue to evolve. Current guidance emerged from an identification of the need for MEAL systems tailored specifically to FBA. Systems are still in the early stages of development and there has been limited testing of studies using unified methodologies. WFP, for example, will embark on a three-year project in 2020 to develop a MEAL framework for anticipatory actions for drought with plans to test and refine the framework through studies. The evidence base for FBA is growing, MEAL systems are advancing, and implementable field manuals exist.

Most organisations designate their guidance as “living documents” to be iteratively updated with learning arising from applied studies. The Red Cross Red Crescent Climate Centre and FAO recommend comprehensive MEAL systems where users design MEAL activities alongside FBA intervention design and implementation. This serves as a very practical approach to develop a holistic system to evaluate the impact of FBA and to refine MEAL systems in conjunction with FBA planning and review processes.

## Lessons learned

The Red Cross Red Crescent Climate Centre’s study on FBA interventions for the Bangladesh floods in 2017 details how FBA was “born out of considerable institutional learning on implementing early actions based on early warnings” (Gros et al., 2019). Similar to the origins of FBA’s inception, the ultimate goal of MEAL is to provide useful learning to improve practice. All organisations incorporate some aspect of learning in their MEAL guidance documents.

The Red Cross Red Crescent Climate Centre guidance features specific lessons learned exercises and accompanying tools, one of the goals is to “promote organisational learning and knowledge sharing” (RCCC, 2019). For example, a key learning summarised in the Red Cross Red Crescent Climate Centre’s *Effects of Providing Forecast-based Cash and Animal Care Kits to Vulnerable Herder Households During the 2017-2018 Dzug Season in Mongolia: Impact Survey Results* found households used only a minimal amount of their cash transfers to buy animal kits, prompting the need to validate kit effectiveness and usefulness as an FBA intervention (RCCC, forthcoming).

FAO details lessons learned at the conclusion of each study. Internally, FAO has started to learn from patterns of actions what may work better in some situations than others. In interviews, FAO shared they have yet to consolidate this learning in a meta-study because context varies greatly between studies, but they find applied learning can be used to improve FBA practice.

There have been no failed attempts in lessons learned exercises as all efforts result in some learning. Most MEAL of FBA practitioner group representatives said they would like to do more to learn from the evidence produced by MEAL activities. Organisations would like to feed evidence back to beneficiaries, use learning to improve internal FBA design and delivery, and use findings to promote knowledge exchange and learning within the FBA community.

# Reflections

In a nascent stage of development, MEAL methodologies and guidance documents are currently being tested and refined for FBA. Common elements in MEAL guidance frameworks were identified in the introduction of each section in this report. These shared approaches stand as a helpful starting point to identify robust practices in early-stage FBA MEAL systems.

There is an opportunity to continue to grow and develop strong MEAL systems to support sector-wide evidence and learning. Reflecting on the first two lenses explored in this study, common gaps in methodologies become clear. These gaps give a chance for reflection and stand as guideposts for future efforts to further refine and improve MEAL systems for FBA.

## Lens I – What is measured?

There is a distinct gap in guidance and evidence that assess the importance of timing in FBA interventions. Few studies focus on the counterfactual of early action-late action or a comparison group based on an alternative FBA intervention delivery timing. Organisations note the importance of studying this element of FBA but emphasise the constraints around implementing a MEAL project to measure the impact and importance of timing.

A few innovative approaches have been piloted to capture evidence on the importance of timing for FBA interventions in the absence of structured early action-late action beneficiary and counterfactual study groups. The Start Network tested a method in Mongolia using structured recall questions. From these surveys, they worked up a timeline mapped with preparation strategies and coping mechanisms. In interviews, Start Network representatives said this helped to give a clearer picture of the window of opportunity for FBA intervention and support. For VfM assessments, Save the Children's scenario building described in the *Value for Money* section could be a model to use proxy information and scenario estimation to explore the importance of timing in FBA interventions.

With focused efforts and sufficient resources, this is an area where MEAL practitioners have a chance for considerable growth to broaden the evidence and learning derived from FBA MEAL systems.

## Lens II – How it is measured?

There is a gap in guidance on rigorous qualitative methods and participatory approaches in how current MEAL systems measure impact of FBA interventions. Qualitative methods have thus far been lightly included in guidance documents and mainly used as a tool to triangulate and validate quantitative findings. There is room for improvement. Rigorous qualitative data collection could be a great opportunity for MEAL systems to simplify data collection logistics and minimise costs but retain rich, rigorous evidence. Mixed-methods approaches are now deemed the gold standard in monitoring and evaluation practice. Guidance documents should look to fully integrate qualitative methods into MEAL systems. FAO's comprehensive MEAL system takes a strong step in this direction.

All MEAL of FBA practitioners recognise the importance of using participatory approaches in research design but many fail to include clear guidance on how to incorporate it. Most organisations are using participatory methods in the design of FBA interventions and early action plans. Transferring this model of interaction with the community to inform and refine MEAL systems would be a good starting

point to incorporate participatory methods. Additional innovative methods for rapid participatory engagement on MEAL systems could be adapted to suit the fast pace of FBA intervention and evaluation in various contexts.

Similar to the “living document” nature of guidance and methodologies reviewed in this study, MEAL of FBA practitioners must continue to learn and adapt systems to produce rigorous, utilisation-focused evidence. Continued sharing of knowledge, research frameworks, and internal studies will move the sector closer to uncovering trends of what does and does not work in FBA, while safeguarding against broad generalisations and loss of local specificity. Continued engagement within the sector is necessary to ensure FBA grows and learns while still in an early phase.

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## Annexes

### Annex 1: MEAL guidance documents and studies submitted for review

Organisation	Title	Published	Included in study	Guidance document
Central Emergency Response Fund	Independent Review of the Added Value of the Central Emergency Response Fund (CERF) in the Countries Affected by El Niño	2018		
Central Emergency Response Fund	Independent Review of the Added Value of the Central Emergency Response Fund (CERF) in Cuba and the Eastern Caribbean for the Response to Hurricanes Irma and Maria	2019		
Christian Aid	Building Resilience to El Niño Drought - Experiences in Early Warning and Early Action in Nicaragua and Ethiopia	2017	✓	
Christian Aid	Measuring Resilience Impact at Programme and Project Levels	2016	✓	✓
FAO	Colombia, Impact of Early Warning Early Action	2019	✓	
FAO	Early Action Against Dzud Safeguards Herders' Livelihoods in Mongolia: Brief	2018	✓	
FAO	EWEA Country Toolkit – Analysing the Impact of Early Actions	draft	✓	✓
FAO	Horn of Africa, Impact of Early Warning Early Action	2018	✓	
FAO	Madagascar, Impact of Early Warning Early Action	2019	✓	
FAO	Mongolia, Impact of Early Warning Early Action	2018	✓	
FAO	The Sudan, Impact of Early Warning Early Action	2019	✓	
ODI	The Evidence Base on Anticipatory Action	2019	✓	
ODI	Taking Forecast-based Early Action to Scale: Lessons, Challenges and Future Potential in Bangladesh	draft	✓	
ODI	Forecasting Hazards, Averting Disasters: Implementing Forecast-based Early Action at Scale	2018	✓	
Red Cross Red Crescent Climate Centre	Effects of Providing Forecast-based Cash and Animal Care Kits to Vulnerable Herder Households During the 2017-2018 Dzud Season in Mongolia: Impact Survey Results	draft	✓	
Red Cross Red Crescent Climate Centre	Household-level Effects of Providing Forecast-based Cash in Anticipation of Extreme Weather Events: Quasi-Experimental Evidence from Humanitarian Interventions in the 2017 Floods in Bangladesh	2019	✓	
Red Cross Red Crescent Climate Centre	Monitoring and Evaluation (M&E) of Forecast-based Financing (FbF): A Practical Reference for Country-Level Implementation (and additional resources and tools)	2019	✓	✓
Save the Children	Field Manual: EAFs Evaluation Methodology	draft	✓	

Save the Children	Methodology to Assess the Effectiveness of Early Action Funds	draft	✓	✓
Save the Children	Social Cost Benefit Analysis of the Early Action Fund	2018	✓	✓

Organisation	Title	Published	Included in study	Guidance document
Start Network	2019 Learning Framework: Start Fund Crisis Anticipation Learning Approach	2019		
Start Network	A Do-it-Yourself Assessment of Impact and Value for Money of a Forecast-based Response in Bangladesh	2019	✓	
Start Network	ARC Replica Learning Tool, Presentation	2019	✓	
Start Network	How to Assess the Impact of Drought Risk Financing Facility: A Guide	2017	✓	✓
Start Network	Mongolia Anticipation of Harsh Winter 2018-2019 Impact Assessment	2019	✓	
UNICEF/WFP	Return on Investment for Emergency Preparedness Study	2015	✓	✓

## Annex 2: Record of MEAL of FBA practitioner group meetings

Date	Theme
10 April 2019	What can and can't we evaluate? What questions should we be asking and what are unrealistic expectations?
15 May 2019	Organisational capacity and enabling factors for forecast based action
19 June 2019	Save the Children Early Action Fund CEA presentation
17 July 2019	ODI presentation – Anticipatory Action Evidence Review: Interim findings and proposed next steps
14 August 2019	Identifying a priority research/think piece to be conducted for the M&E practitioner group
23 October 2019	How do organisations approach counterfactuals in MEAL guidance?
11 November 2019	MEAL of FBA study inception discussion at the Global Dialogue Platform

## Annex 3: List of key informants

Organisation	Contact	Title	Date of Interview
Christian Aid	Richard Ewbank	Global Climate Advisor	26 November 2019
FAO	Niccolò Lombardi	Early Warning Action Specialist	25 November 2019
Red Cross Red Crescent Climate Centre	Clemens Gros	Monitoring and Evaluation Advisor	26 November 2019

Save the Children	Laura Swift	Food Security and Livelihoods Technical Advisor	27 November 2019
Start Network	Sarah Barr	Technical Advisor, Learning	27 November 2019
WFP	Paris Kazis	Consultant	16 December 2019

## Annex 4: Comparative table of FBA MEAL methodologies

	Christian Aid	Red Cross Red Crescent Climate Centre	FAO	Save the Children	Save the Children	Start Network	UNICEF/WFP
Document	Measuring Resilience Impact at Programme and Project Levels	M&E of FbF: A Practical Reference for Country-level Implementation	EWEA Country Toolkit – Analysing the Impact of Early Action	Methodology to Assess the Effectiveness of Early Action Funds (EAFs)	Social Cost Benefit Analysis of the Early Action Fund (EAF)	How to Assess the Impact of Drought Risk Financing (DRF) Facility: A Guide	Return on Investment for Emergency Preparedness Study
Type of Guidance	Guidance for impact assessment	Guidance for impact assessment	Guidance for impact assessment and VfM assessment	Guidance for impact assessment	Guidance for VfM assessment	Thought framework for impact assessment	Guidance for VfM assessment
Approach	Non-experimental design, theory-based impact assessment	Theory-based impact assessment. Identifies steps for each phase of FbF action based on theory of change results chain.	Mixed-methods, theory-based approach	Measuring effectiveness through temporal variation in key indicators	Social cost benefit analysis	Theory-based impact assessment: analyse causal chain starting from the theory of change.	ROI, measures time and cost savings of emergency preparedness investments, not recipient level impact.
Type of Hazard	Resilience programmes	Any FbF activity	Any FBA	Drought (EAF funded)	Drought (EAF funded)	Drought (DRF funded)	Any emergency preparedness activity

	Christian Aid	Red Cross Red Crescent Climate Centre	FAO	Save the Children	Save the Children	Start Network	UNICEF/WFP
Research Questions	<p>1. Whether an intervention increasing resilience in the short-term could lead to greater vulnerability in the longer term?</p> <p>2. Whether an intervention increasing the resilience of one area or community could result in increased vulnerability in another?</p>	<p>1. Did households who were assisted through forecast-based actions experience fewer disaster impacts than households who did not receive this type of early help?</p> <p>2. Did FbF-assisted communities suffer fewer damages to their houses and livestock compared to previous, similar hazard events?</p>	<p>Guiding questions:</p> <ol style="list-style-type: none"> <li>1. How can we assess whether an early action project achieved the expected outcomes?</li> <li>2. How do we calculate the return on investment (ROI) of early actions?</li> <li>3. How do we estimate the avoided costs of humanitarian assistance?</li> <li>4. How do we assess food security and nutrition benefits of early actions?</li> <li>5. How do we analyse qualitative data on beneficiaries' perceptions?</li> </ol>	<ol style="list-style-type: none"> <li>1. Does acting based on forecasts help households to protect their livelihoods?</li> <li>2. Does acting based on forecasts help households to protect their food security levels?</li> <li>3. Does acting based on forecasts help households to protect the well-being of their children?</li> <li>4. If the shock does not happen as projected, how does acting early impact households' livelihoods and food security levels?</li> </ol> <p>Not: What is the added value of acting early?</p>	<p>Can early action support households enough to defend them from using negative coping strategies that will impact their immediate food security and livelihoods and erode their resilience in the medium to long term?</p>	<ol style="list-style-type: none"> <li>1. How does predictable funding influence financial flows and response?</li> <li>2. Was the science-based risk modelling accurate?</li> <li>3. Did DRF lead to earlier (i.e. timely) response?</li> <li>4. Did DRF facilitate more effective response?</li> <li>5. Did DRF result in losses being avoided?</li> <li>6. Was DRF cost-effective?</li> </ol>	<p>How to quantify time and cost savings of emergency preparedness investments?</p> <p>Examines four operational areas: logistics, procurement, staffing, and partnerships/external contracting.</p>

<b>Methodology</b>	Analysing buffer capacity: social capital, natural assets, human capacity, financial capital, physical assets.	Identify M&E needs in inception phase; Develop M&E plan from ToC for each action using goal, outcome and outputs to define indicators.	Four-part analysis: 1. ROI 2. Avoided cost emergency response valuation 3. Impact assessment of food security and nutrition benefits 4. Beneficiary perception	Focus on derivative of indicators.  Recommends monthly cohort study. Based on sustainable livelihood framework.  Normalise variables to create composite indicators.	"Forecastive" cost effectiveness model.  Calculating SCBA ratio by mapping outcomes from ToC, conducting drivers of change analysis using QulP (Qualitative Impact Assessment Protocol), and valuing outcomes.	No specific methods for impact assessment.	Traditional ROI methods: create country risk profiles, value investments, and value returns.
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	Christian Aid	Red Cross Red Crescent Climate Centre	FAO	Save the Children	Save the Children	Start Network	UNICEF/WFP
<b>Unit of Analysis</b>	Household	Household/ community	Household and programme	Household	Programme	Programme	Programme
<b>Source of Data</b>	Household surveys	Household surveys and existing government/ institution data	Household surveys, programme budget	Household surveys	Programme data	Household (for guidance on impact)	Programme budget

Counterfactual	<p>Emphasise importance of good baseline. Can use non-experimental design such as difference-in-difference to compare before and after vs. participants and non-participants.</p> <p>Recommendation: use control group if it exists.</p>	<p>1. Historical impact data 2. Nearest neighbour control group - impact data from comparison communities, propensity score matching if there is sufficient demographic data.</p> <p>Recommendation: use one or both.</p>	<p>Non-beneficiary households "have not received assistance from other organisations during the project duration as well as 2 to 3 months prior." Same hazard intensity, similar socio-economic conditions.</p>	<p>Nearest neighbour control groups: sample control group selected using HEA approach.</p> <ul style="list-style-type: none"> <li>- Comparison between households receiving and those not targeted over time.</li> <li>- Comparison between households receiving and those who did not qualify because they were "more resilient" over time.</li> </ul>	<p>Possible options: hypothetical scenario approach, analyse trend data, nearest neighbour control groups.</p> <p>Counterfactual scenarios based on hazard:</p> <ul style="list-style-type: none"> <li>- Scenario 1: early action does not take place but crisis occurs, humanitarian response required</li> <li>- Scenario 2: early action does take place, crisis occurs, humanitarian responses required but smaller scale.</li> <li>- Scenario 3: early action does take place, crisis does not occur.</li> </ul>	<p><i>Not included</i></p>	<p>N/A</p>
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	Christian Aid	Red Cross Red Crescent Climate Centre	FAO	Save the Children	Save the Children	Start Network	UNICEF/WFP
Sample Selection	<p>Random sampling. Standard scientific recommendation for sample size calculation based on prevision, accuracy, representative samples, cost, and disaggregate requirement.</p> <p>Considerations: stratification by age group may be important. Should demonstrated quality between men and women.</p>	<p>Random sampling. Cluster sampling for cost effectiveness measures recommended.</p> <ol style="list-style-type: none"> <li>1. Randomise selection of intervention and comparison group not logistically possible to do it by household.</li> <li>2. Randomly sample for data collection to reduce bias and error.</li> <li>3. Use recall questions to estimate baseline conditions in post-disaster survey.</li> </ol>	<p>Random sampling. Standard scientific recommendation for sample size calculation with high confidence level (95%), low margin of error (5%).</p> <p>Guidance: strike balance between technical rigour and feasibility.</p>	<p>Random sampling. Stratified, cluster recommended.</p> <ol style="list-style-type: none"> <li>1. Cluster using HEA approach</li> <li>2. Select households in target area and control area</li> <li>3. Stratify sample based on wealth.</li> </ol>	N/A	<i>Not included</i>	N/A
Data Collection	<i>Not detailed</i>	Initial: 4 to 6 weeks post-hazard. Follow up: 6 to 12 months.	Immediately post-hazard, timed with agricultural season.	Monthly cohort study	N/A	<i>Not included</i>	N/A
VfM Approach	N/A	N/A	ROI, Losses avoided valuation	N/A	CBA, cost driver analysis	CBA, ROI, other VfM approaches also recommended	ROI

<b>Gender Lens</b>	Recommends balance M/F in sample selection.	Even/odd survey numbers for alternating M/F head of household.	<i>Not included</i>				
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## Annex 5: Table of common indicator themes

Christian Aid	Red Cross Red Crescent Climate Centre	FAO	Save the Children	Save the Children	UNICEF/WFP
<i>Measuring Resilience Impact at Programme and Project Levels</i>	<i>M&amp;E of FbF – A Practical Reference for Country-level Implementation</i>	<i>EWEA Country Toolkit – Analysing the Impact of Early Action</i>	<i>Methodology to Assess the Effectiveness of Early Action Funds</i>	<i>Social Cost Benefit Analysis of the Early Action Fund</i>	<i>Return on Investment for Emergency Preparedness Study</i>
<i>Possible asset buffers to measure</i>	<i>Common indicator categories to measure FBA impact</i>	<i>Possible types of data to collect to measure FBA impact</i>	<i>Common indicators to evaluate EAF interventions</i>	<i>Social benefit indicators to consider in SCBA</i>	<i>Areas to consider in ROI analysis</i>
Social capital: a culture of confidence and motivation needed to assess risks and foster increased resilience.	Factors impacting health, well-being, livelihoods: food/water supply, labour constraints, public infrastructure.	Food security: number of people acutely food insecure, number of children under 5 years old receiving nutritional assistance, malnutrition rates etc.	Livelihood outcome indicators: Household food insecurity access scale (HFIAS), food consumption score (FCS), middle-upper arm circumference (MUAC), school days lost.	Livestock stock	Qualitative benefits
Natural assets: additional biodiversity that can be used in times of emergency.	Shelter and housing: household housing structures, communal shelters.	Vulnerability: average income per capita, access to markets, access to basic services, unemployment etc.	Social capital: bonding capital, inter-household conflict.	Livestock health	Cost savings
Human capacity: the capacity required to use risk knowledge to anticipate and mitigate shocks and stresses.	Assets: personal assets, productive assets.	Agriculture: livestock birth and mortality rates, milk production, crop yields and harvested areas, use of inputs, agricultural practices, fish catch etc.	Physical capital: water access.	Food Consumption Score (FCS)	Time savings

Financial capital: additional savings that can be mobilised after the hazard; investment that can be made available to mitigate future stresses; access to effective and appropriate insurance schemes.	Health and well-being: mortality, morbidity, stress/anxiety.	Household profile: household composition, number of children under 5 in the household, people with disabilities.	Coping capacity: Coping Capacity Index (CCI).	School attendance
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Christian Aid	RCCC	FAO	Save the Children	Save the Children (SCBA)	UNICEF/WFP
Physical assets: the extra strength needed in physical infrastructure to cope with the forecasted hazard		Agricultural performance: animal body conditions, milk production, animal mortality rates and calving rates, use of feed, crop yield, use of crop inputs, work effort, use of produce.	Economic capital: household expenditure, food ratio, investment ratio, wealth index, household savings.	Individual Dietary Diversity Score (IDDS)	
		Household food security: food consumption, coping strategies, food assistance, nutritional assistance, food stocks.	Debt: food debt ratio, non-food debt ratio.	Income	
		Impact of forecasted hazard on households: extent of damage and losses by type of crop, animal species etc., impact on food security.	Human capital: household illness score.	Access to clean water	
		Perceptions of beneficiaries about project impact: perceived socioeconomic benefits, unexpected negative			
	<b>FAO (continued)</b>				
	Hazard: rainfall; temperature; wind speed; frequency of disasters; annual monetary damage and loss from disasters in agriculture, etc.				
	Project implementation: number of beneficiaries, location of beneficiaries, amount of inputs/assets/cash received by each beneficiary				

households, exact project implementation timeline.	consequences, perceived impact on food security.
Project costs: project expendable and non-expendable costs.	Prices: average salaries of agricultural workers; local market prices of fertilisers, pesticides, water, feed, crops, seeds, fishery products, livestock products, live animals.
Project information from beneficiaries: use of inputs/assets/cash received; duration of inputs/assets/cash received; participation in project's capacity building activities.	Household finance: loan uptake, use of loans, loan repayment, indebtedness, use of risk transfer mechanisms.

Theme	Colour	Key
Food Security and Livelihoods		
Economic		
Health		
Programme-level		

## ABOUT START NETWORK

Start Network is made up of more than 40 aid agencies across five continents, ranging from large international organisations to national NGOs. Together, our aim is to transform humanitarian action through innovation, fast funding, early action, and localisation.

We're tackling what we believe are the biggest systemic problems that the sector faces - problems including slow and reactive funding, centralised decision-making, and an aversion to change, means that people affected by crises around the world, do not receive the best help fast enough, and needless suffering results.

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