



EVALUATING THE RESULTS OF BRACED PROJECTS IN ETHIOPIA, MYANMAR AND NIGER

Dave Wilson, Gil Yaron and Christophe Béné

Working paper



CONTACT THE AUTHORS



Dave Wilson is a principal consultant and leads the climate change theme at Itad and coordinates the BRACED Knowledge Manager's evaluation activities. Dave has over 10 years' experience of managing and evaluating climate change and natural resource programmes in the UK and overseas.

[@davewilson_itad](#)



Dr Gil Yaron is an economist and, over the past 20 years, has led many evaluations in the areas of climate change, natural resource management and sustainable development. Gil leads the technical design and delivery of BRACED project impact evaluations and cost benefit analyses.

[@GYASSOCIATES](#)



Dr Christophe Béné is Senior Policy Advisor for CIAT. He is a socio-economist and policy analyst with 20 years of experience in developing countries. Through inter-disciplinary and field-based research his work focuses essentially on poverty, vulnerability and food security through resilience analysis and evaluation of social protection programmes in relation to disasters and climate change.

ACKNOWLEDGEMENTS

This report was written by Dave Wilson (Itad), Chris Béné (International Center for Tropical Agriculture) and Gil Yaron (GY Associates). Additional thanks go to those who contributed to the original technical reports which this report summarises including Alexander Riba, Sam Dumble and Carlos Barahona (Stats4SD).

The authors are grateful to representatives from the three Implementing Partners without whom this would not have been possible: Manzo Rio-Rio Aminou and the whole M&E team of the CRS Niamey office; Jeremy Stone and Bhushan Shrestha from Plan International; Negusu Aklilu and Befekadu Ayele from Farm Africa; as well as the enumerators who conducted the field surveys and data collection in Ethiopia, Niger and Myanmar. The authors also wish to acknowledge the time given by all the field staff and, in particular, project participants who sacrificed their time to facilitate or respond to the data collection activities.

Critical review from Philippa Tadele and DFID advisors greatly improved the quality of the report.

The work is part of Evaluation Activity (EA3) implemented by Itad and funded by UK Government DFID under the BRACED programme.



Contents

Acronyms	5
Executive summary	7
1. Introduction	15
1.1 Quantifying and attributing changes in household resilience under BRACED	16
1.2 Purpose and structure of this report	17
1.3 Who is this report for?	19
2. Project interventions	20
3. Methodology	23
4. Summary of project findings	26
4.1 BRACED Myanmar Alliance	27
Key findings: BRACED Myanmar Alliance	32
4.2 Scaling-Up Resilience for 1 Million People in the Niger Basin River (SUR 1M)	39
Key findings: SUR1M, Niger	42
4.3 Market-Based Approaches to Resilience (MAR), Ethiopia	48
Qualitative evaluation	50
Key findings: MAR, Ethiopia	53

5. Cross-country findings	57
6. Conclusions	66
6.1 Lessons from the BRACED Myanmar Alliance	66
6.2 Lessons from SUR1M, Niger	70
6.3 Lessons from MAR, Ethiopia	73
7. Recommendations	78
References	82
Annexes	86

List of tables

Table A:	Summary and comparison of from three country studies including an overall assessment of the results and level of agreement	11
Table B:	Cross project comparison of project evaluation results against 3As + T Framework	11
Table 1:	Overview of each of the three projects intervention types	21
Table 2:	Summary of the different approaches used for each of the project-level evaluative activities	24
Table 3:	Treatment intensity categories and their definitions	31
Table 4:	Details of data collection activities in South Omo, Ethiopia	52
Table 5:	Summary and comparison of key findings from three country studies including an overall assessment of the results and level of agreement	60
Table 6:	Cross project comparison of project evaluation results against 3As + T Framework	62
Table 7:	Recommendations based on the evidence from the evaluation findings presented in this report	79

List of figures

Figure 1:	Location of Myanmar Alliance project sites	30
Figure 2:	Maps of the areas in Niger where the SUR1M is operating	40
Figure 3:	Adverse events (shocks/stressors) that have affected households during past two years	43
Figure 4:	MAR-Ethiopia Project sites in Ethiopia. Coloured shapes show different Woredas	49

Acronyms

ATT	Average Treatment Effect for the Treated
ANOVA	Analysis of Variance
BRACED	Building Resilience and Adaptation to Climate Extremes and Disasters programme
CCA	Climate Change Adaptation
CCAFS	Climate Change, Agriculture and Food Security programme
CI	Confidence Interval
CMDRR	Community-Managed Disaster Risk Reduction
CRS	Catholic Relief Services
CSAP	Climate-Smart Agricultural Practice
CSO	Civil Society Organisation
DAC	Development Assistance Committee
DFID	UK Department for International Development
DRR	Disaster Risk Reduction
EA	Evaluation Activity
EWG	Early Warning Group
EWS	Early Warning System
FGD	Focus Group Discussions
GoN	Government of Niger
HFIAS	Household Food Insecurity Access Scale
HDDS	Household Dietary Diversity Score
ICF	International Climate Fund
IP	Implementing Partner
KII	Key Informant Interviews
KM	Knowledge Manager
KPI	Key Performance Indicator

LZ	Livelihood Zone
MAR-E	Market-based Approaches to Resilience-Ethiopia
M&E	Monitoring and Evaluation
NGO	Non-Governmental Organisation
NRM	Natural Resource Management
OECD	Organisation for Economic Co-operation and Development
PNRM	Participatory Natural Resource Management
PRC	Participatory Radio Campaign
PSM	Propensity Score Matching
RCT	Randomised Control Trial
RuSACCO	Rural Savings and Credit Cooperatives
SILC	Savings and Internal Lending Community
SNNPR	Southern Nations, Nationalities, and Peoples' Region
SUR1M	Scaling-Up Resilience to Climate Extremes for over 1 Million People in the Niger River Basin
T/C	Treatment/Control
ToC	Theory of Change
UK	United Kingdom
UNDP	United Nations Development Programme
VSLA	Village Savings and Loans Associations

Executive summary

Introduction

The three-year, £110 million UK Department for International Development (DFID)-funded Building Resilience and Adaptation to Climate Extremes and Disasters (BRACED) programme aims to build the resilience of up to 5 million vulnerable people against climate extremes and disasters. It was launched in January 2015 and supports over 120 organisations in 15 consortia delivering projects across 13 countries in East Africa, the Sahel and Asia.

Understanding the extent to which BRACED projects are able to strengthen the resilience of the households, communities and organisations they work with is critical to ensuring that successful approaches are scaled and replicated. To address this, the BRACED Knowledge Manager has been working with three of the 15 BRACED projects: **SUR1M (Niger), Myanmar Alliance and Market Approaches to Resilience (MAR, Ethiopia)**. Together, we designed and implemented evaluations to determine the extent to which household resilience has changed as a result of the project interventions, which interventions worked or failed to work, for whom and why.

This report summarises the results of these three different country-level evaluations.

Who is this report for?

The report is aimed at those interested in resilience measurement from government and non-governmental organisations (NGOs), academia and M&E practitioners, as well as funders and commissioners of evaluations. It is also intended for other

Implementing Partners (IPs) within the BRACED programme that may be considering similar approaches for future resilience-strengthening projects under or outside of BRACED.

Country-level results

MYANMAR ALLIANCE: POSITIVE BUT MODEST AND VARIABLE IMPACT IN MYANMAR

Results show that while the BRACED project in Myanmar was effective overall, there is a large amount of geographic variability, across dimensions of resilience and for the poorest members of the community. Combinations of interventions seem to be effective, especially when linked and combined with community participation, and training which appears to help them leverage the maximum benefit in terms of household resilience. We were unable to identify any statistically significant (and therefore reliable) changes in higher-order well-being (e.g. food security) as a result of the project work despite the increases in resilience capacities which suggests that observing these impact-level changes in two years may be unrealistic.

SUR 1M: BETTER OUTCOMES FOR THOSE BENEFITING FROM THE SUR 1M PROJECT

Evaluation findings indicate that while those benefitting from the BRACED project are more exposed to potential climate shocks, they fair better than those who do not receive support. In particular, project beneficiaries are not only likely to deploy more positive or adaptive coping strategies, but they are less likely to deploy negative ones and when they do so, for a shorter period. However, these positive results have not yet translated to observable or measurable changes in food security as a higher-order well-being indicator.

MAR: EFFECTIVE AND POTENTIALLY SUSTAINABLE MODEL IN SOUTH OMO, ETHIOPIA

Overall, interventions appear to be viewed as effective by beneficiaries and project staff in South Omo. However, we must be cautious in drawing any general conclusions based on the findings presented here as it represents only a small sample study in one of the four regions in which the project operates. Village Savings and Loans Associations (VSLAs) combined with training to manage them and the loans made available appear to have a positive effect by supporting livelihood diversification and providing access to finance in times of climate stress, and be potentially sustainable. Project efforts to link to existing national and regional financial services suggest that the interventions may be at least sustainable if not scalable. Current beneficiaries are likely to be able to sustain the VSLAs after BRACED funding finishes.

Cross-country comparison

The contexts in which the three BRACED projects are operating differ socio-politically, institutionally, climatically and culturally. However, they all share common features in terms of climate risks and hazards and the vulnerability of their citizens to increasing uncertainty, long-term stress and sudden onset idiosyncratic (localised) and co-variate (widespread) shocks. While the nature of the projects and the contexts in which they are operating varies, there are similarities in terms of intervention typology. Furthermore, by using the 3As + Transformation framework developed under BRACED (Bahadur et al 2015) we are able to make comparisons across projects in a useful way.

Tables A and B below are adapted from more comprehensive ones included in the main report. They provide a 'snap shot' of the effectiveness of the projects overall, by intervention type, in delivering higher-order well-being impacts and when compared against the 3As + Transformation Framework.



A note of caution when interpreting these results

As noted in the methodology section, the results presented for each project were collected in different ways. Evidence from Myanmar and Niger was the result of representative large sample household survey work using experimental methods. The Ethiopia component, while included in this BRACED M&E work, was a small sample, qualitative case study. Results cannot therefore be directly compared. They have been included in our analysis for completeness and should not be considered representative but indicative and warranting further research. When presenting results from Ethiopia in comparison to others we have been conservative in our assessment.

Table A: Summary and comparison of from three country studies including an overall assessment of the results and level of agreement

FINDING AREA	MYANMAR	NIGER	ETHIOPIA	LEVEL OF AGREEMENT
Overall project effectiveness in building resilience	++	++	+	Moderate
Intervention level effectiveness				
1. Financial Services (VSLA, Microfinance and SILC)	++	++	++	Good
2. Agro-pastoral (livestock, climate smart agricultural)	+	++	n/a	Low
3. Natural Resource Management	+	+	++	Moderate
4. Climate information (weather forecasts, early warning systems)	+	+	+	Good
5. Policy, institutions and community organisation	+	n/a	n/a	Low
Higher order wellbeing outcomes	+	+	n/a	Moderate
Differential impacts	+	+	n/a	Moderate

Table B: Cross project comparison of project evaluation results against 3As + T Framework

3 A'S+T	MYANMAR	NIGER	ETHIOPIA	LEVEL OF AGREEMENT
Absorptive	++	++	++	Good
Anticipatory	+	+	+	Good
Adaptive	+	++	+	Moderate
Transformative potential	Low	Medium	Medium–High	
Sustainability potential	Unclear	Medium	Medium	Moderate
Scalability potential	Unclear	Unclear	High	Moderate
Catalytic potential	Medium	Low	Medium	Moderate

Key messages

1. Overall, these projects appear to have had a positive effect on household resilience capacities at an aggregate level although we are able to say less about MAR given the narrow focus.
2. At the intervention level, there appears to be a consistently positive set of results for resilience gains as a result of financial services, and community savings groups (VSLAs and SILC) in particular. The picture is more mixed across other common intervention types. There is some consistency in the effects of climate information in that all projects have achieved variable outcomes with this type of intervention. The results have been positive in some cases and less so in others with some limitations in terms of coverage and access.
3. While results are mixed in terms of differential benefits for subgroups there is no evidence of systematically less-positive results for female households although the poorest in Myanmar may be less able to leverage maximum benefit from BRACED investment.
4. The results of evaluations indicate that projects have been unable to translate intervention-level effects on household resilience improvement into the longer term, higher-order well-being impacts. We believe this to be primarily owing to the relatively short amount of time between data collection rounds.
5. In terms of the 3As, our evidence suggests that all projects have had some success in enhancing absorptive capacity, principally through offering effective financial service interventions. However, the survey evidence suggests it is just not realistic to expect project interventions to deliver the kind of absorptive capacity to build resilience to very large, co-variate shocks in two or three years.

6. Projects have been less successful at building anticipatory capacity through the provision or augmentation of climate or weather information which may come as somewhat of a surprise.
7. The evidence for influencing adaptive capacity is even less clear cut based on our assessments but this could be expected given these may be longer term changes not yet detected through our evaluations.

In presenting country-level findings based on rigorously collected and analysed data, we have been able to draw some compelling conclusions and lessons from each country context. As described earlier, the methods used to reach these conclusions do not lend themselves well to broader generalisations. We must also be cautious in drawing collective conclusions based on country-level evidence.

Outstanding questions

There is clearly a limit to the evidence we have been able to derive from the evaluations which leaves a number of unanswered questions and gaps in our knowledge. These include:

The effects of government and policy engagement work: Our evaluations were unable to determine the household-level effects of any local or national policy engagement work undertaken by the projects. It is difficult to attribute any changes to such interventions and it may take longer for any changes to become apparent even if we could. There is clearly a place for policy work at different levels as part of a holistic programme and to potentially sustain and scale impact (see final point below) but different approaches to gauging impacts of this work are required.

Which combination of interventions is most cost effective:

Our analysis has not been able to determine an optimal configuration of interventions which provides the most efficient (in terms of time and resources) increases in resilience. Funders may wish to consider this as part of their Value for Money assessment for future programming decisions.

To what shock level communities may now be resilient:

While we may have been able to attribute positive changes in climate resilience at the household level we have not been able to determine to what magnitude or indeed frequency of shock or stress that improved levels of resilience will allow a household to recover from. It may be that projects have made marginal increases in resilience which will allow them to recover from a small-scale idiosyncratic shock but not a large, 1 in 25-year shock. More research is required to understand whether a minimum level of resilience is required.

Transformational change: Our evaluations were not designed or required to assess the degree to which transformational change has occurred or is likely. We have tried to highlight where we may see signs of potential for effects to be sustained, scaled or replicated (dimensions of transformational change according to the ICF KPI 15 guidance) but have been unable to offer much insight on this point as it was outside the scope of the evaluation.

Recommendations

A complete set of recommendations tailored to different audiences is included in the main report as a table which is not included here for brevity. Please see [page 79](#) in Section 7.



1. INTRODUCTION

IMAGE: UNICEF
ETHIOPIA/2014/
TSEGAYE

The three-year, £110 million UK Department for International Development (DFID)-funded Building Resilience and Adaptation to Climate Extremes and Disasters (BRACED) programme aims to build the resilience of up to 5 million vulnerable people against climate extremes and disasters. It was launched in January 2015 and supports over 120 organisations in 15 consortia across 13 countries in East Africa, the Sahel and Asia.

With risks from climate-related disasters increasing it is an urgent imperative to understand what makes people, households, communities, markets, organisations and countries better able to anticipate, absorb and adapt to climate extremes. Therefore, understanding the extent to which BRACED projects are able to strengthen the resilience of the households, communities and

organisations they work with is critical in ensuring that successful approaches are scaled and replicated. This is a core function of the BRACED Knowledge Manager (KM) who seeks to generate rigorous and reliable evidence for what works and what doesn't in resilience building across different contexts.

1.1 Quantifying and attributing changes in household resilience under BRACED

All BRACED projects seek to increase the resilience of people vulnerable to climate extremes. This outcome is reported on by BRACED projects for International Climate Fund (ICF) Key Performance Indicator 4 (KPI4). It is typically captured by a number of variables relating to types of assets and capacities and the ability of people to utilise these in the face of climate extremes.

However, the nature of resilience-strengthening activities, and the fact that they are not operating in a vacuum with outcomes potentially influenced by other (confounding) factors, makes it difficult to attribute changes in resilience solely to a particular BRACED project or intervention. Simply comparing baseline and end-of-project data does not solve this problem as the observed change may be the result of the project and external effects. What is missing is a counterfactual – what happens for beneficiaries in the absence of the project – that would then enable the attribution of changes only to BRACED interventions.

In an attempt to address this question of attribution, the BRACED KM has been working with three of the 15 BRACED projects:

SUR1M (Niger), Myanmar Alliance and Market Approaches to Resilience (MAR, Ethiopia). Together, we designed and implemented impact evaluations to determine the extent to which household resilience has changed as a result of the project interventions.¹ Each evaluation was designed to be relevant for the context in which it is operating, its implementation plans and its existing monitoring and evaluation (M&E) framework while offering some coherence across all three.²

1.2 Purpose and structure of this report

This report summarises the results of three different evaluative exercises across three BRACED projects – two quantitative impact evaluations (Myanmar Alliance and SUR1M) and a rapid qualitative assessment (MAR). It is important to note that each project also produces a final evaluation report using a range of methods for different purposes, but this report presents only the results of the KM's country-level work.

The overall purpose of the country-level evaluations is to determine the extent to which household-level resilience increased as a result of BRACED interventions and provide insights into any differential effects for different groups offered by a range of project interventions.

- 1 Note that owing to reasons described more fully later in the report, quantitative impact evaluations were conducted only in Myanmar and Niger. A smaller, more focused qualitative study was conducted in Ethiopia.
- 2 Full details of the evaluation can be found in the BRACED KM Evaluation Plan and detailed design document (available on request).

The evaluations were focussed on two core questions:

1. To what extent has beneficiary (household) resilience increased as a result of BRACED interventions?
2. Which interventions worked or failed to work, for whom and why?

These reports are available separately³ and are more technical in nature, providing a fuller exposition of the methods, findings and conclusions drawn.

This report aims to synthesise headline findings and conclusions in an accessible format. It is organised into the following sections.

SECTION 2

Outlines an overview of the three BRACED project interventions;

SECTION 3

Provides an overview (but not a detailed description of) the methods used in each project evaluation;

SECTION 4

Summarises the key findings from each of the three country level studies;

SECTION 5

Offers a synthesis of all the findings organised by themes and explores the similarities and differences between them;

- 3** **Niger Country Study:** www.braced.org/resources/i/measuring-changes-in-resilience-niger/
Myanmar Country Study: www.braced.org/resources/i/measuring-changes-in-household-resilience-BRACED-Myanmar/
Ethiopia Country Study: www.braced.org/resources/i/the-market-based-approach-to-resilience-ethiopia-qualitative-evidence-south-omo/

SECTION 6

Draws some general conclusions from across each of the three projects; and

SECTION 7

Provides a set of recommendations for different audiences based on the evidence presented.

1.3 Who is this report for?

The report is aimed at those interested in resilience measurement from government and non-governmental organisations (NGOs), academia and M&E practitioners, as well as funders and commissioners of evaluations. It is also intended for other IPs within the BRACED programme that may be considering similar approaches for future resilience-strengthening projects under or outside of BRACED.

A photograph showing a woman standing on the left, addressing a group of women seated in a line. They are in a rural setting with a thatched roof and green walls. The image is overlaid with a blue tint. The text '2. PROJECT INTERVENTIONS' is written in large white letters over the image.

2. PROJECT INTERVENTIONS

IMAGE:
EUROPEAN
UNION/ECHO/
MALLIKA PANORAT

Each of the three projects operates in different contexts and has adopted interventions to suit these – see Section 4 for project-level detail. However, some project interventions are common across the three projects (see Table 1). All three offer the following types of interventions: natural resource management, financial inclusion (e.g. VSLA or microfinance), planning and policy influence, disaster risk management and early warning (e.g. climate or weather information). Given the different methods used across these projects and the different contexts in which they operate, we are unable to offer an accurate or fully valid cross comparison. However, because of the similarity of some of the interventions we are able to say something about the effectiveness of the same types of interventions in different settings and infer from this their wider efficacy in particular conditions.

Using the BRACED 3As + Transformation (3As + T)⁴ framework (Bahadur et al., 2015) we offer some comparability across different dimensions of resilience capacities. The framework was developed specifically for BRACED drawing on a wide body of literature and defines resilience as a set of capacities – anticipatory, absorptive and adaptive. In column 2 of Table 1 below we assign the intervention types to one or more of these capacities to aid cross-project comparisons discussed in later sections. These are the authors' own categorisations.

Table 1: Overview of each of the three projects intervention types

INTERVENTION TYPE	3AS + T ⁵	MAR (ETHIOPIA)	MYANMAR ALLIANCE (MYANMAR)	SUR1M (NIGER) ⁶
1. Disaster risk management and early warning (group formation, EWS, hazard mitigation, improved forecasting/climate info)	Anticipatory	•	•	•
2. Water supply (system development, water management for households and agriculture)	Anticipatory; Absorptive		•	
3. Natural resource management (forest and watershed governance, pasture management)	Adaptive; Absorptive	•	•	•
4. Financial inclusion (village savings and loans schemes, links to financial service providers)	Absorptive; Adaptive	•	•	•

⁴ www.braced.org/resources/i/the-3as

⁵ The 3As + T framework is the BRACED conceptualisation of resilience capacities. The assignment of these different capacities to a particular intervention type is the author's own and indicative.

⁶ The SUR 1M project operates in Niger and Mali but the evaluation work was only conducted in Niger owing to security issues when conducting the baseline survey.

Table 1 continued

INTERVENTION TYPE	3AS + T ⁵	MAR (ETHIOPIA)	MYANMAR ALLIANCE (MYANMAR)	SUR1M (NIGER) ⁶
5. Agro-pastoral	Adaptive			
5a) Horticulture and cropping	Adaptive	•	•	•
5b) Livestock management	Adaptive			•
6. Nutrition and health (including training, behaviour change)	Adaptive			•
7. Entrepreneurship (training, group formation, value chain development, service providers)	Adaptive	•		•
8. Planning and policy influence (Community planning, local capacity building, grant making, advocacy, lobbying, national policy influence)	Adaptive; Absorptive; Transformative	•	•	•
9. Gender and social inclusion (organisational change, training, policy influence, self-help and support)	Adaptive; Transformative		•	•



3. METHODOLOGY

IMAGE: IFPRI/
MILO MITCHELL

In this section we summarise the different approaches used for each of the project-level evaluative activities. This is not intended to be a detailed description of the individual methodologies (this can be found in the country-level reports).⁷

- 7 Niger Country Study:** www.braced.org/resources/i/measuring-changes-in-resilience-niger/
- Myanmar Country Study:** www.braced.org/resources/i/measuring-changes-in-household-resilience-BRACED-Myanmar/
- Ethiopia Country Study:** www.braced.org/resources/i/the-market-based-approach-to-resilience-ethiopia-qualitative-evidence-south-omo/

Table 2: Summary of the different approaches used for each of the project-level evaluative activities

	SUR 1M, NIGER	MAR, ETHIOPIA	BRACED MYANMAR ALLIANCE
Project description	SUR1M builds resilience to climate extremes at scale through a gender-responsive, community-centred disaster risk reduction and climate change adaptation approach, fostering women's empowerment.	Market-based approaches to improve the resilience of vulnerable pastoralist/ agro-pastoralist households to climate change. These will enable households, businesses and communities to better manage their resources and everyday risks.	Building the resilience of 356,074 individuals across three at-risk climatic zones through a combination of policy, action and media outreach, a diverse collaboration among local and international partners.
Evaluation design	Comparing matched high-intensity vs. medium-intensity groups using a comparative baseline and endline household panel survey.	Original design: Comparing matched individuals from early intervention vs. late intervention kebeles (villages) using a baseline and endline panel household survey. Implemented design: Rapid and focused qualitative exercise in South Omo building on project led evaluation results. ⁸	Difference-in-Difference analysis comparing changes between baseline and endline survey results from a panel of households across 'target' (treatment) with 'non-target' (control) community. ⁹
Household survey sample design	Two-stage cluster sampling design. Stage 1: random selection of villages; Stage 2: systematic random sampling to select high- and medium-intensity groups from project database.	Stratified random sampling. Strata = region, late vs. early, livelihood group (agricultural, urban or agro-pastoral/ pastoral).	Stratified random sampling (based on community size/ agro-ecological zone). Spillover effects controlled for via 2–5 km exclusion areas. 50% sample of female-headed households targeted.
Household sample size	Baseline: 1,800. Endline: 2000 (additional high intensity hh).	2,200 (baseline only).	Baseline = 2,377. Endline = 2,589.
Composite indices¹⁰	Capacity-based; Six dimensions based loosely on Scoones' Sustainable Rural Livelihood Framework. ¹¹	Different index for three different 'livelihood' groups; Five to seven indicators per index, with each indicator weighted.	5 dimensions with 30 indicators. Weighted between 15% and 30% at dimension level and equally within dimensions for each constituent sub-indicator.

- 8 Note that target is equated to treatment and non-target to control which is used from here on out for consistency.
- 9 The final evaluation conducted by LTSi on behalf of the Farm Africa led consortium was completed at the end of 2017. The BRACED Knowledge Manager had originally envisaged supporting a quasi- experimental impact evaluation using a large-sample household survey. However, during the course of the project it became clear that owing to the nature of the project and some initial implementation delays and changes in roll out that this was no longer feasible. With DFID's approval, limited resources were directed to conducting qualitative work, building on the final evaluation results to explore tightly defined questions: Which interventions and combinations of interventions made the most difference? and What are the thresholds for 'sufficient' resilience?
- 10 Annexes 1–3 of this document present each of the composite indices.
- 11 www.ids.ac.uk/publication/sustainable-rural-livelihoods-a-framework-for-analysis



4. SUMMARY OF PROJECT FINDINGS

IMAGE: IFPRI/
MILO MITCHELL

In this section we provide summary of the key findings for each of the three BRACED projects evaluated. Full findings can be found in each of the individual evaluation reports. We also include some more detail about each of the projects and the context in which they are operating to aid the reader in situating the findings presented.

4.1 BRACED Myanmar Alliance

PROJECT CONTEXT

Myanmar experiences multiple types of regular and serious natural shocks.¹² Its long, low-lying coastline on the Bay of Bengal makes the west of the country particularly susceptible to regular storm surges and cyclones.¹³ Further inland, drought is common in the Central Zone comprising Mandalay, Magway and Sagaing, but these and other areas also face seasonal riverine and flash flooding, and 261 lives were lost to riverbank erosion between 2014 and 2017. The most recent comprehensive hazard profile for the country also lists fire and earthquakes as major factors leading to loss of life and damage to assets and livelihoods (Union of Myanmar et al., 2009). The combination of multiple shocks within a short timeframe can lead to significant loss of lives, livelihoods and assets. 1.7 million people were affected by the combination of severe monsoon rains triggering landslides in June and cyclone Komen making landfall in July 2015 (ReliefWeb, 2015).

The impact of cyclone Nargis in 2008 was the most visible recent demonstration of Myanmar's vulnerability to extreme weather events. The cyclone devastated large areas of the Ayeyarwady Delta region, killing approximately 140,000 people (TCG, 2008), affecting 2.4 million (OCHA, 2012) and significantly impacting 37 townships. Two years post-shock, incomes from agricultural and fishing livelihoods remained below pre-Nargis levels while levels of casual labour and debt remained markedly higher (TCG, 2010).

¹² In 2017, the country scored 8/10 'very high' for natural hazards and exposure on the INFORM index for Risk Management: www.inform-index.org/Portals/0/InfoRM/INFORM%20Global%20Results%20Report%202017%20FINAL%20WEB.pdf?ver=2016-11-21-164053-717

¹³ In the 60 years before Nargis the country had experienced 35 cyclone events (Union of Myanmar et al., 2009).

The accumulated loss from the single event accounted for over 90% of the country's loss attributable to extreme weather events in the two decades between 1996 and 2015, and ranked it the second most affected country during that period (Kreft et al, 2017).

Climate modelling for Myanmar indicates the likelihood of continued temperature rises, increased monsoon rainfall and sea level rise by mid-century (Horton et al., 2016), all of which are likely to exacerbate many of the existing threats the country faces from water inundation or shortage and heat.

PROJECT FOCUS

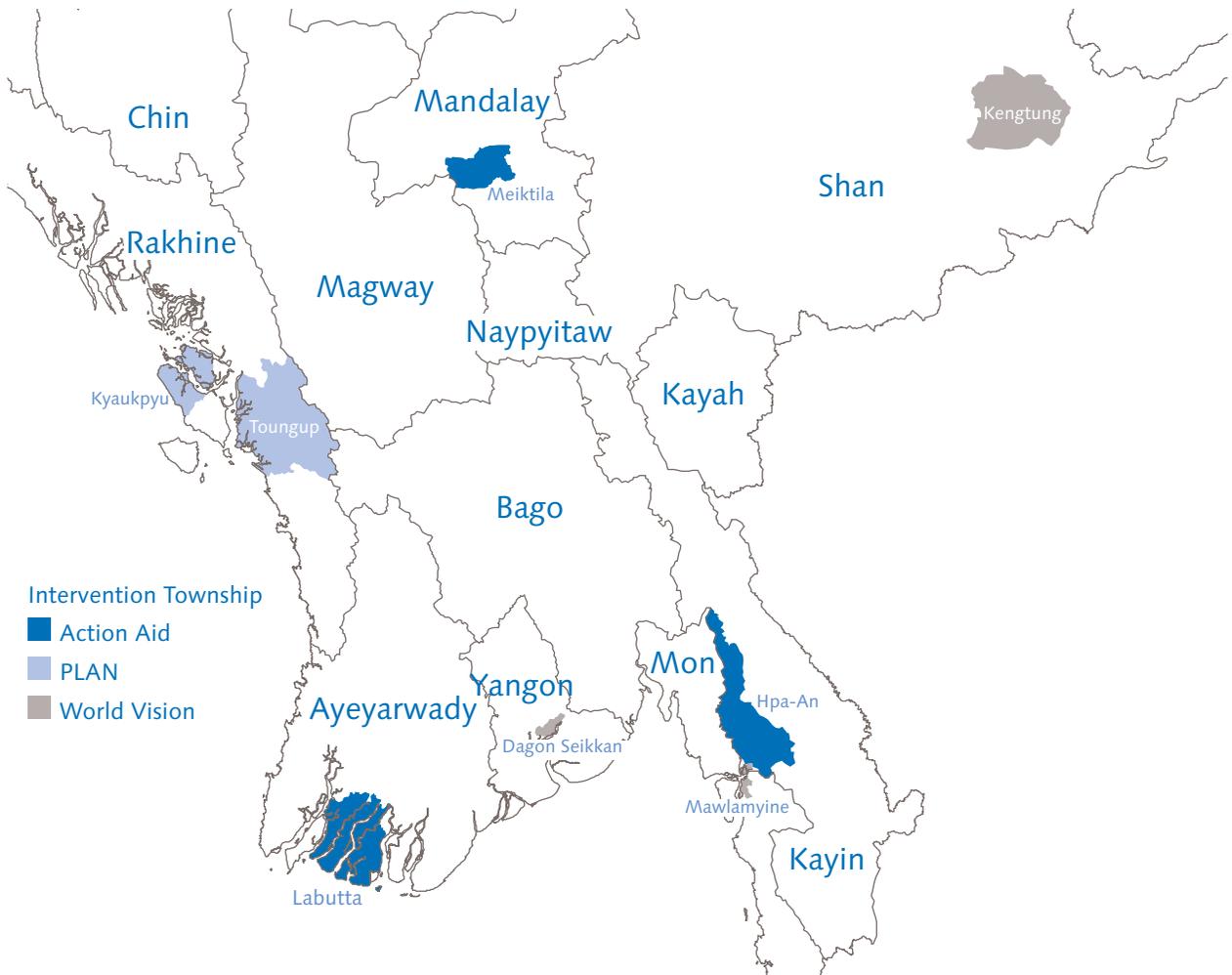
The BRACED Myanmar Alliance¹⁴ was a three-year project aiming to build the resilience of 350,000 people across Myanmar to climate extremes. The project worked in 7 states, 8 townships and 155 communities (see Figure 1).

The intended longer-term impact for the project was for the targeted population to achieve improved well-being and reduced loss and damage despite climate shocks. Within the project lifetime, the intended outcome was for vulnerable communities, driven by women and children and supported by effective institutions, to be more resilient to climate extremes and disasters. The project sought to do this by addressing immediate hazard-related needs at community level while encouraging longer-term solutions driven and delivered by communities, sub-, and national government.

¹⁴ The Alliance consists of six agencies: three IPs with geographic zones for implementation (Plan together with Community Development Association (CDA), World Vision and ActionAid), and three agencies (Myanmar Environment Institute, UN-Habitat and BBC Media Action) provided a series of crosscutting support to communities, townships, government bodies, the media and others to build an enabling environment for resilience-planning and decision-making.

More specifically, the project's Theory of Change (ToC) – sets out three pathways through which change is expected to occur and five areas of activities (activity themes) to deliver this change. The three pathways (that became project outputs) are:

1. Communities, especially women and children, are equipped with the knowledge, skills and resources to mitigate the risks of and recover from climate shocks and stresses. Gains were expected within 1–2 years;
2. Institutions are coordinated, responsive, accountable and inclusive in their management of climate risks. Gains were expected within 1–2 years;
3. The evidence base is strengthened and learning on managing climate extremes is disseminated to inform and influence the resilience-related policy strategies and agenda at international, national and subnational levels. Scaling up and out of successful interventions was seen as key for this and process and gains were expected within 2–3 years.

Figure 1: Location of Myanmar Alliance project sites**PROJECT ACTIVITIES**

The five activity themes (shown below) provided the project's strategic areas of work:

- **Activity theme 1:** Integration of resilience into planning processes through the BRACED Resilience planning cycle, processes and implementation;
- **Activity theme 2:** Access and management of climate data, EWS and development of communication channels;

- **Activity theme 3:** Tackling the root causes of vulnerability through empowering women, children and the most vulnerable;
- **Activity theme 4:** Livelihoods/assets and ecosystem management through greater access to financial services (VSLA MF), and DRR and CCA services for resilience building; and
- **Activity theme 5:** Knowledge development, sharing and dissemination to inform policy and replication.

These activities were offered at different levels of intensity to treatment households, in particular those under activity themes 2–4. Categorisation of treatment intensity was defined in conjunction with BRACED IPs and determined based on responses to questions about which interventions households had received (Table 3).

Table 3: Treatment intensity categories and their definitions

TREATMENT INTENSITY CATEGORY	DEFINITION
Low	Household in treatment community, unable to identify any BRACED intervention it had benefited from.
Medium	Household in treatment community, only identifying community-level interventions or only identifying low-level engagement with household- or individual-level interventions.
High	Household in treatment community identifying ongoing engagement with household- or individual-level intervention.

The project identified five key dimensions of resilience relevant for the project and the operational context (see Annex 3 for full details). These include:

- D1: Increased resilience system and livelihoods
- D2: Access to communication, access and use of information
- D3: Increased preparedness and coping mechanisms
- D4: Improved safety nets
- D5: Improved decision-making and planning

Key findings: BRACED Myanmar Alliance

Here, key findings from the project evaluation are presented, organised by the specific evaluation questions for the project and numbered for ease of reference.

How has household resilience changed as a result of BRACED interventions?

1. **The overall resilience measure increased significantly more in treatment (project) sites relative to control (counterfactual) sites.** The BRACED Myanmar Alliance project has had a net positive effect in terms of increasing resilience capacity in its treatment households. However, not all dimensions of resilience have responded in the same way and there are large differences between townships in the way that the overall KPIs have changed over the life of the project (discussed below).

2. **The dimensions of resilience that have increased significantly ($p < 0.05$ ¹⁵ or lower when comparing treatment and control groups baseline to endline) are in Dimensions 1, 3 and 5.** Results however, show a decline for both treatment and control groups but a greater fall for control groups in the two years between baseline and endline in D1: Increased resilience system and livelihoods.
3. **In D3 (Increased preparedness and coping mechanisms), there is a 5% increase in household-resilience capacities for the treatment relative to the 9% fall for the control.** This may reflect modest increases in treatment group access to plans and drill practice and better preparation to cope with the last severe shock relative to declines in these areas for the control group.¹⁶
4. **Highly significant score increases in D5 (Improved decision-making and planning) indicate greater involvement of women and children in community resilience planning.** Baseline values for treatment and control groups were similarly low for this resilience dimension. This suggests that the community planning model used by the BRACED Myanmar Alliance has improved the inclusion of women and children. Given that the process used intensive NGO facilitation, there is a risk that it will not be sustained.

¹⁵ This is a measure of statistical significance with a p value of less than 0.05 considered to indicate that a result is likely to be significant i.e. more likely than not to be due to the intervention and not just chance.

¹⁶ The 'Access to safe evacuation place' indicator within this resilience dimension declined for both treatment and control groups. In Dagon Seikkan during the follow-up exercise, this was associated with the increase in population, which has reduced space at the evacuation places.

5. **The dimensions that have not seen statistically significant changes are D2 (Access to communication and use of information) and D4 (Improved safety nets).**
6. **There is substantial variation in impact across the eight townships, particularly in the benefits of access to climate information.** Kyaing Ton and Meikhtila were the only townships that saw statistically significant increases in D2 (access to communication and use of information for treatment groups relative to control). In Kyaing Ton and Meikhtila, training provided by BRACED enabled farming households to use this information more effectively. Conversely, decreases in resilience KPI measures for treatment relative to control groups in Mawlamyaine and Dagon Seikkan are particularly evident regarding D2 (access to communication, access and use of information). Project interventions do not appear to have added value for use of this information as they did in Kyaing Ton and Meikhtila.

Effectiveness: Which interventions appear to make the biggest difference?

KEY FINDINGS ON SCALE AND INTENSITY

1. **The more BRACED interventions that households received, the greater the increase in resilience.** Those with four or more interventions reported significantly higher increases in resilience scores than the control (counterfactual) group.
2. **There is no large or statistically significant difference between resilience outcomes for those households receiving one versus those receiving two or three interventions.** There appear to be incremental changes until a tipping point is reached at four interventions in a package that provides more significant gains.

3. **Programme impact on resilience increases with the intensity (see Table 2) of interventions received.** The increase in KPI between baseline and endline is greatest for high intensity relative to the control group ($p < 0.005$) although there is still a positive impact from medium-intensity interventions ($p < 0.05$).

KEY FINDINGS FOR INTERVENTION EFFECTIVENESS

There is also some evidence for which interventions have been most effective. However, this has to be interpreted with caution, for two reasons. First, sample sizes for type of intervention within a particular township can be very small (i.e. ≤ 30); and, second, interventions are typically combined into packages – making it difficult to isolate the effect of specific interventions.

1. **Overall, infrastructure (e.g. protected water sources, flood embankments, improved roads), self-help groups/VSLA/ Microfinance, climate-resilient smart agriculture (CRSA) and training are associated with the greatest statistically significant overall KPI gains for project treatment groups relative to control groups.** Focus Group Discussions (FGD) and key informant interviews for the separate cost benefit analysis (Yaron and Wilson, forthcoming) in four townships indicate significant economic returns from interventions that address infrastructure and microfinance/VSLA.
2. **It is a package of interventions that typically makes the most difference.** For example, 23% of project beneficiaries only reporting infrastructure/water infrastructure benefits are no more likely to report an increased KPI than the control group. Households only reporting other types of intervention (24% of project beneficiaries and largely high intensity) and those reporting infrastructure plus other interventions (32% of project beneficiaries) have statistically significantly higher household resilience gains than the control group ($p < 0.001$).

Who has benefited a lot? Who has benefited very little?

In this section we look at differential benefits across groups. While the overall KPI measure (and three out of five components) rose faster for treatment than control groups, these benefits were not seen by all treatment households. We explore some of the key differences here.

KEY FINDINGS: DIFFERENTIAL BENEFITS

1. **Low-intensity households in treatment areas experienced decreasing resilience relative to control households between baseline and endline.** The resilience of households in the target area (that were unable to identify receiving project interventions) was lower than households in households not targeted by the project. This is true for overall resilience scores but is influenced by the very poor relative performance of low-intensity households in terms of improved safety nets.¹⁷
2. **We find that low-intensity households are clustered in particular communities.** They constitute more than 30% of the sample in two townships, just over 20% in three townships and a very small share (<10%) in three townships. A key characteristic of these households, within Kyaing Ton, Mawlamyine and Hpa An, is that a disproportionate number do not speak Myanmar as their first language. In general, they are poorer than other households in the treatment group (owning fewer assets, with lower education and lower-quality housing). It seems likely that the factors that have made it relatively difficult for the project to work in these communities also tend to make them more vulnerable.

¹⁷ Based on asset ownership, access to loans and outside help.

3. **Female-headed households in project areas appear to benefit significantly from project interventions relative to control groups.** Project interventions are associated with improved resilience scores for female-headed households. After adjusting for other factors, this trend was seen not only in Dagon Seikkan but also in Taungup, Mawlamyine and Kyaing Ton.
4. **Households with more assets had larger positive changes in their resilience capacities.** That is to say that those with higher scores on our constructed asset index (a proxy for relative wealth or prosperity) saw greater increases in their household resilience scores. It appears that this effect has not been outweighed by the efforts of the project community planning model aimed at identifying interventions that would particularly benefit vulnerable households.

Impacts on food security: How do changes in resilience capacities relate to higher order well-being?

Food security is the higher order well-being indicator for which we have data where we may expect to see a difference between treatment and control groups in the face of climate shock if resilience interventions have been successful. In the face of a shock, food security can be adversely affected. Theoretically, we would expect the food security of those households benefiting from resilience-building activities to either not be affected or not decrease as much as for those that were not receiving project benefits.

KEY FINDINGS: FOOD SECURITY

1. **There is no evidence that the BRACED project increased food security over the project life.** This is not surprising: we did not anticipate that modest increases in resilience capacities would translate to significant increases in food security in the limited time between baseline and endline (two years).

2. **However, there has been a decline in the proportion of all households reporting they have had to go without a meal owing to lack of resources.** This reflects improving economic circumstances and the absence of major shocks over the period for both treatment and control groups. This result does not change when we consider the intensity of the project support (high, medium or low categories).

Summary: Positive but modest and variable impact in Myanmar

The summary findings presented here show that while the BRACED project in Myanmar was effective overall, there is a large amount of variability geographically, across dimensions and for the poorest members of the community. Combinations of interventions seem to be effective (especially when linked and combined with community participation, and in particular when supported by training) and appear to allow them to leverage the maximum benefit in terms of household resilience. We were unable to identify any statistically significant (and therefore reliable) changes in higher-order well-being (e.g. food security) as a result of the project work despite the increases in resilience capacities which suggests that observing these impact level changes in two years may be unrealistic.

Read more in the full report: **Measuring changes in household resilience as a result of BRACED activities in Myanmar.**

4.2 Scaling-Up Resilience for 1 Million People in the Niger Basin River (SUR 1M)

PROJECT CONTEXT

In the Sahel, increasingly frequent droughts, floods and other shocks exacerbated by climate change impede household livelihoods, asset building and system strengthening. This undermines the ability of households and communities living in these regions to overcome the next shock, resulting in increased poverty and vulnerability. In Niger and Mali, where the SUR1M project operates, more than 60% of the population is poor or extremely poor (GoN, 2012; CRS, 2013). A large proportion of these households are agro-pastoralists, meaning they are particularly vulnerable to climate extremes as a result of their reliance on rain-fed agriculture and low annual rainfall.

Recurring prolonged dry spells and severe floods in recent years have negatively affected these populations' cereal production in terms of yields, plant growth and grain quality, contributing to widespread and chronic food shortages with devastating impacts on food security and the viability of rural livelihoods (Gubbels, 2012). Extreme climate events exacerbate these structural vulnerabilities by triggering negative coping strategies, such as unsustainable tree-cutting for charcoal, selling animals and other assets to buy cereals at unfavourable prices and participation in artisanal mining, all of which exacerbate vulnerabilities and further undermine long-term resilience (Jalloh et al., 2013).

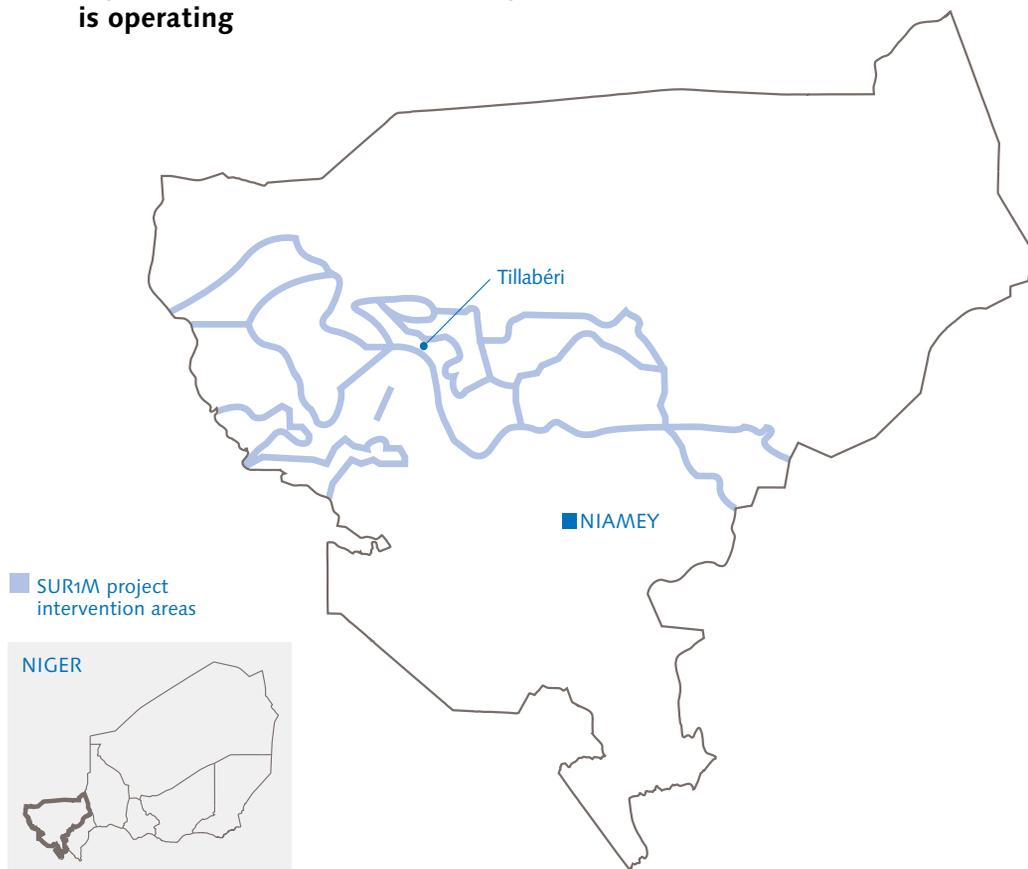
PROJECT FOCUS

The SUR1M project aims to reduce the risk of exposure to disasters (droughts and floods) for about 1 million people in 19 communes, including 12 in Niger and 7 in Mali, all in the Niger River Basin. In Niger, the communes are distributed

in the departments of Ouallam, Tillabéri, Tera, Bankilare and Ballayara in Tillabéri region. In Mali, the communes are located in the circles of Ansango and Gao in the Gao region (Figure 2).

The initial target groups represent 80% of the total population living in this part of the Niger River Basin, who share cultural, ecological, political and socioeconomic factors and vulnerabilities, including cyclical food insecurity, underlying gender barriers and weak local governance. Aiming to reduce climate change vulnerability and build resilience in this highly vulnerable zone, SUR1M leverages traditional, positive, coping mechanisms and promotes innovative, locally adapted and proven strategies across the two countries.

Figure 2: Maps of the areas in Niger where the SUR1M is operating



PROJECT ACTIVITIES

SUR1M is organised around a series of activities:

- **Savings and Internal Lending Communities (SILCs):**
In Niger and Mali, SUR1M improves access to financial services through the implementation of SILCs. SILCs comprise of 15–30 self-selecting members (averaging 75% women) and build capacity in financial knowledge and practices through a safe savings mechanism with an internal loan fund, increasing women's social capital, voice and financial stability.
- **Re-greening, natural resource management and climate-smart agricultural practices (CSAPs):** SUR1M promotes a number of locally adapted and proven re-greening CSAPs, soil and water conservation and farmer-managed natural regeneration techniques appropriate for both men and women.
- **Development of local seed multiplication and input distribution systems:** SUR1M provides training to local seed multipliers and distributors, in partnership with private agro-dealers. These agro-dealers acquire and provide improved base seed to multipliers and buy back the bulk of their certified seed production, giving farmers consistent access to improved seeds and other inputs through local suppliers.
- **Community-managed disaster risk reduction (CMDRR) and early warning groups (EWGs):** CRS with local partners establishes commune and community-level CMDRR and EWGs in SUR1M target areas. Investing in DRR has both direct and indirect economic benefits. These can include improved governance, women's participation, basic service delivery, access to services and other benefits that ultimately lead to the sustainability of DRR investments.

- **Participatory radio campaigns:** SUR1M has developed a coordinated information and education communications strategy that stimulates demand for improved services, access to technologies and good governance while delivering key behavioural change communication messages. Radio is the primary channel of dissemination, as it has the largest reach and the ability to share messages with 70–80% of rural households, while accounting for both men's and women's schedules.
- **Public–private linkages:** Annual 'commune resilience days' provide opportunities to raise project visibility and directly link producers and buyers to private service providers such as local seed producers, agro-dealers, veterinary services, mobile phone companies and entrepreneurs while promoting new products such as time-and-energy-saving technologies and inputs.
- **Local governance:** In an effort to respond to the challenge and build off the opportunities of decentralisation, SUR1M provides performance-based grants to communes to strengthen their institutional capacity and promote gender-responsive CCA and DRR in the Commune Development Plans. Additionally, SUR1M provides tools and trains civil society organisations in advocacy and intermediation so they can influence local governance.

Key findings: SUR1M, Niger

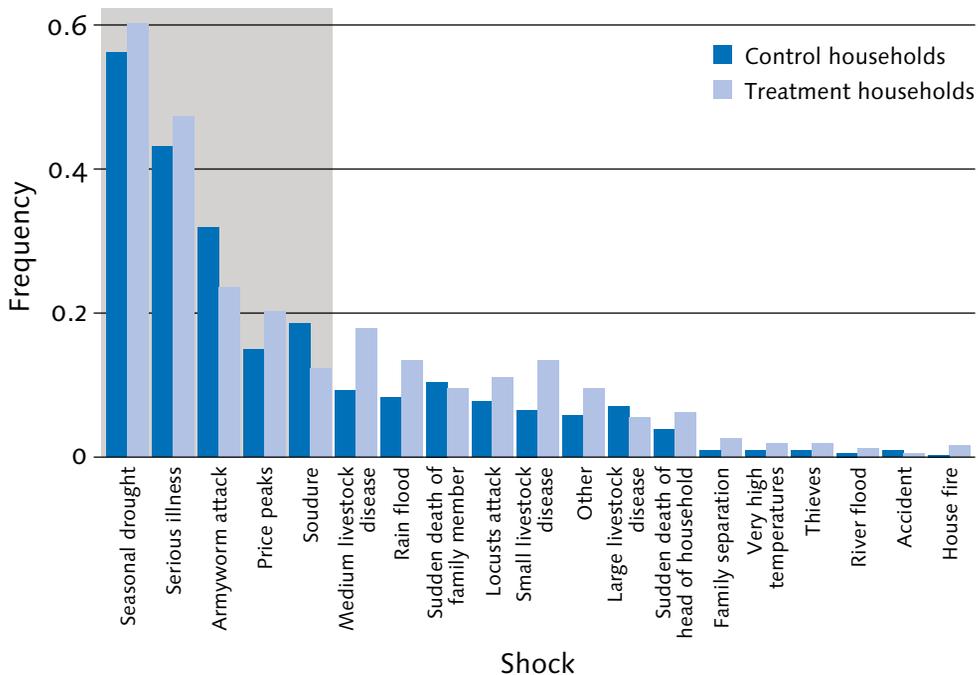
Although the SUR1M programme intervenes in Mali and Niger, for security reason the evaluation team was allowed to work only in Niger. The following key-findings are therefore limited to Niger.

SHOCK EXPOSURE

1. **Project target (treatment) households appear to be more exposed to climate-related shocks than those in non-target (control) households.** Figure 3 represents

these results graphically. It shows that, with the exception of armyworm attacks and price peaks, the proportion of treatment households reporting adverse events is always slightly higher than the proportion of control households reporting the same types of events. Figure 3 also shows that the five adverse events most frequently reported by households during the surveys are (i) seasonal drought (Control 57% and Treatment 60%), (ii) serious illness (Control 42% and Treatment 47%), (iii) armyworm attacks (Control 32% and Treatment 24%), (iv) food and general commodity price peaks (Control 15% and Treatment 20%) and (v) seasonal food shortage (Control 18% and Treatment 16%). There appears to be no significant difference between male- and female-headed households and the number of shocks experienced.

Figure 3: Adverse events (shocks/stressors) that have affected households during past two years



Note: Shocks highlighted within the shaded area are the five shocks/stressors on which the rest of the analysis will focus.

Source: Authors

SHOCK RESPONSE: COPING STRATEGIES

- 1. The data suggests that households in the treatment group are slightly less impacted¹⁸ by the effects of adverse events than households in the control group.** As illustrated across a range of variables and even in the context of greater exposure to climate shocks, those households benefitting from BRACED project support fair better than those who do not.
- 2. The data indicates that the most frequently adopted negative coping strategy across both groups is 'taking a loan'.** There are five main coping strategies deployed by both treatment and control groups. More than 60% of households (across both control and treatment groups) have taken out a loan as a way to cope with shocks and stresses over the past two years. The next most frequent coping strategy is 'reduced family expenditure' (48%), followed by 'reduced food consumption' (45%), 'selling assets' (40%) and 'changing the type of food consumed' (31%).
- 3. It is notable that, in four out of the five most frequent types of negative coping strategies, the probability of engaging in those strategies is systematically lower among the treatment group** than among the control group and in two out of these four cases the difference is statistically significant for 'reduced food consumption' and 'changing the type of food consumed'.
- 4. These results suggest that, for the five coping strategies, the treatment group never displays a higher propensity to engage in detrimental responses than the control group**

¹⁸ We make here the distinction between the exposure to shocks/stressors (proxied by the number of adverse events reported by individual households) and the effect of these events (proxied by income loss, assets loss and intra-household tension).

(even if they had initially reported to be more exposed to adverse events). At worst, treatment households display the same propensity to engage in detrimental coping strategies as the control households; at best they show a lower propensity (in two out of the five cases).

5. **Households which received BRACED support deploy negative coping strategies for a shorter period than those who did not receive support.** This suggests that BRACED support helps people move out of crises more quickly. We found that when both treatment and control households do engage in detrimental coping strategies, control group households appear to deploy some of those strategies for longer. In particular in the case of 'taking a loan', the duration of adopting this strategy is significantly longer ($p=0.001$) for the control group than for the treatment group.
6. **Control group households appear to resort to even riskier detrimental coping strategies than treatment group households.** While the major sources of borrowing for the treatment group are friends/neighbours and family, as well as NGOs, the control households rely mainly on the owners of local shops (more than 38% of the time) and local money-lenders (in slightly less than 10% of cases). In fact, in this case the difference between control and treatment is significant.
7. **SUR1M support has led to increased deployment of positive coping strategies linked to the interventions offered.** In particular, applying conservation agriculture techniques and accessing climate information appear to be used more by those supported by the project. The most frequently adopted on-farm adaptive strategies (both treatment and control households) are 'saving seeds in advance' and 'purchasing improved seeds', followed by 'saving money'.

8. **Overall SUR1M beneficiary households do display a statistically significant (at the 99% level) higher propensity to engage in positive strategies than control households.**

SHOCK RESPONSE: COPING WITH PARTICULAR SHOCKS

Beyond the types of responses adopted by the households, the KM evaluation team also investigated the ability of those households to 'bounce back' after being affected by shocks or stressors. For this a resilience index was constructed based on carefully structured questions probing the perception that people had developed about their ability to recover from specific shocks.

9. Treatment households reported a statistically significantly higher capacity to cope with a range of the most common shocks (presented in Figure 3) when compared with the control group. For the four other shocks, the results show that the treatment group systematically displays a higher resilience index than the control group. In three out of these four cases, this difference is statistically significant.

IMPACTS ON HIGHER-ORDER WELL-BEING

The third hypothesis explored with SUR 1M relates to longer term impact. We hypothesised (and indeed the BRACED programme logic assumes) that if the project were successful at building the resilience of the beneficiaries, then these beneficiaries should display a higher level of food security and nutritional security (used as indicators of well-being). The most relevant well-being indicators for the project for which data was available were the Household Dietary Diversity Score (HDDS) and the Household Food Insecurity Access Scale (HFIAS). We compared the two variables for control and treatment households using a Propensity Score Matching (PSM) technique.

10. SUR1M households are not characterised by a level of food security or dietary diversity higher than that of the non-beneficiaries. Our results indicate that for neither of the

two well-being indicators (the HFIAS and the HDDS) does the treatment group display a higher value than the control group. The comparison of the two indicators shows no specific difference between the beneficiaries of the SUR1M beneficiary and non-beneficiary households, suggesting that at this stage the SUR1M project does not have a strong long-term impact on the well-being of its beneficiaries.

Summary: Better outcomes for those benefiting from the SUR1M project

Evaluation findings indicate that while those benefitting from the BRACED project are more exposed to potential climate shocks, they demonstrate better resilience outcomes than those who do not receive support. In particular, project beneficiaries are not only likely to deploy more positive or adaptive coping strategies, but they are less likely to deploy negative ones and for a shorter period. However, these positive results have not yet translated to observable or measurable changes in food security as a higher order well-being indicator.

Read more in the full report: [Measuring changes in resilience as a result of the SUR1M project in Niger.](#)

4.3 Market-Based Approaches to Resilience (MAR), Ethiopia

PROJECT CONTEXT

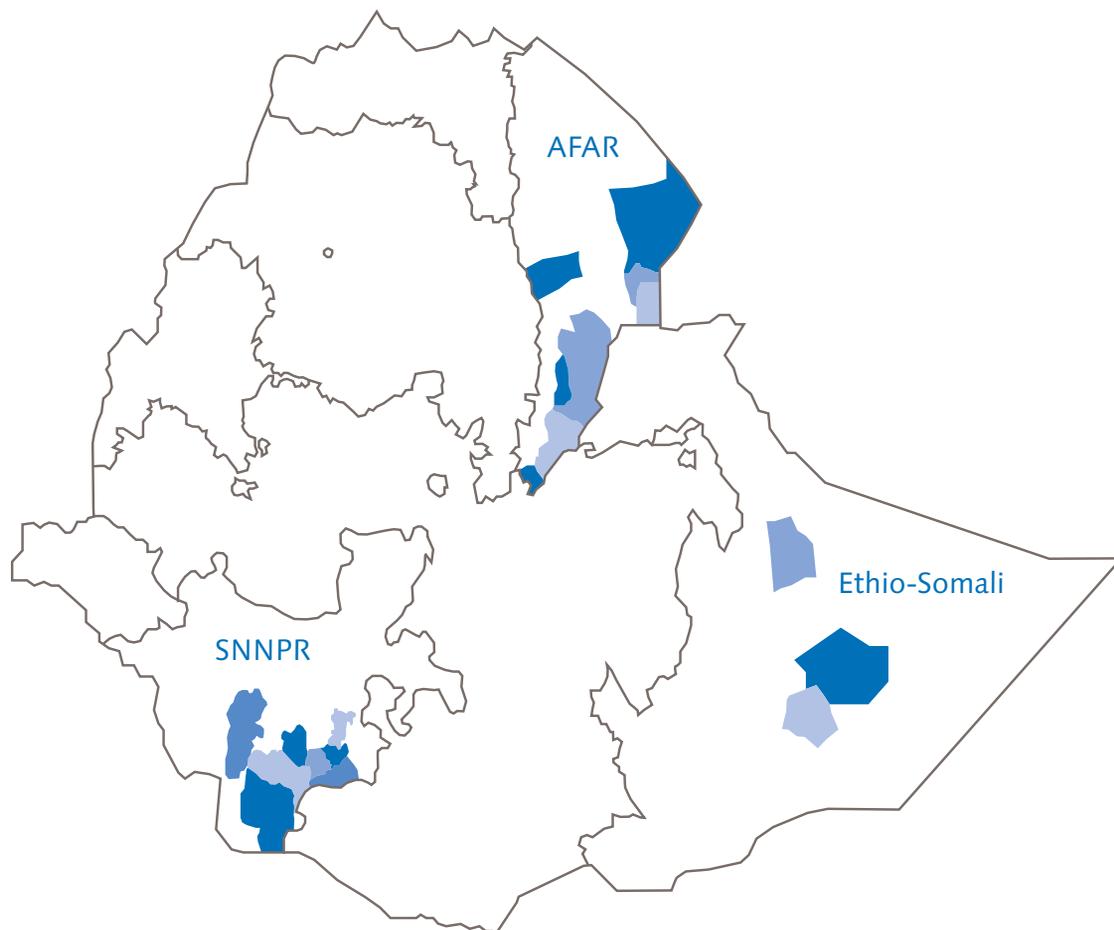
The MAR project focuses in three lowland regions of Ethiopia: Afar, Somali and the Southern Nations, Nationalities and Peoples' Region (SNNPR). There was a significant and widespread drought experienced in Afar and Somali during the project period.

People within the project areas are vulnerable to climate extremes and variability including drought and flooding. Their agricultural systems are vulnerable to variable rainfall patterns which also limit fodder and water access for livestock. This is made worse by poorly managed natural resources and weak market systems which means sellers are not well connected to buyers of goods and services. People are not able to draw on savings when times are hard nor are they able to predict accurately when that might be owing to either inaccurate or absent climate information services. Furthermore, the capacity of local government to support people to predict, manage and recover from climate shocks is limited by resources and technical constraints. It is within this context that the MAR project designed interventions to tackle these issues in a holistic way.

PROJECT FOCUS

Implemented by Farm Africa and Mercy Corps, the MAR in Ethiopia project worked across 20 Woredas (districts) in the lowland regions of Afar, Somali and SNNPR – see Figure 4. The project targeted primarily pastoralists, agro-pastoralists and unemployed youth and women in urban areas.

Figure 4: MAR-Ethiopia Project sites in Ethiopia. Coloured shapes show different Woredas



Source: LTSi, 2018

PROJECT ACTIVITIES

The project provided the following interventions

1. **Financial services** e.g. VSLAs, Micro-Finance, Mobile Banking and Insurance;
2. **Participatory Natural Resource Management (PNRM)**
e.g. community-based management, climate information production and use through early warning risk profile assessments;

3. **Urban resilience building** e.g. designing of municipal green plans, supporting One Stop Job centres and establishing challenge funds for small and medium enterprises to implement green plans; and
4. **National-level partnership building and knowledge generation** e.g. partnering with government departments and private investors to reduce negative environmental and social impacts of agricultural investments in lowland areas.

Qualitative evaluation

As noted in the methodology section of this report, the evaluation findings presented here were not derived in the same way as those for the other two projects. The findings discussed here are the results of a focussed qualitative study conducted using the project-led final evaluation (LTSi, 2018) as an entry point. Working with the implementing partners and donor (DFID), we designed a focused piece of qualitative research with project staff, pastoralist communities and government officials in South Omo to further explore some important issues. The aim was to:

1. Strengthen the understanding of project impact on pastoralist communities;
2. Help the MAR project team to get more from their quantitative evaluation work planned for 2019; and
3. Provide useful starting information for proposed DFID programming on pastoralist use of VSLAs and microfinance.

Specifically, we addressed two key questions:

- **Which interventions and combinations of interventions made the most difference?** This is a key question for DFID and the wider audience when considering resilience programming and investment. The project's final evaluation had to consider a large number of pathways from intervention to outcome across all 20 project woredas in three regions. We were able to draw on the general findings and look in more depth at which interventions were most successful and why, looking specifically at one pastoralist and one agro-pastoralist community in the South Omo region. In these communities, the interlinked project interventions included:
 1. **Financial services** (primarily VSLAs with some early examples of linkage to more formal microfinance);
 2. **PNRM** – particularly rangeland management to increase available fodder in the event of drought; and
 3. Provision of **10-day weather forecasts** via radios and subsequently, word of mouth in the broader community.

We were particularly interested in VSLAs and their linkage with more formal microfinance given the evidence of saving reported by the project and the DFID Ethiopia country office's desire for evidence on pastoralist use of VSLAs and microfinance to support new programmatic work.¹⁹

¹⁹ DFID has selected Ethiopia as one of the Component D2 (Policy) focus countries.

- **What are the thresholds for 'sufficient' resilience?** Early in the project the KM evaluation team discussed with MAR staff what their stakeholder consultations suggested for the composition of a resilience index to track resilience capacities and thresholds for desired improvements.²⁰ Based on the experience of trying to build resilience in the face of the severe 2015/16 drought, we were interested to know if the original thresholds would need revision for the 2019 BRACED extension final evaluation.

The field team conducted Focus Group Discussions (FGD) and Key Informant Interviews (KII) with the groups presented in Table 4.

Table 4: Details of data collection activities in South Omo, Ethiopia

RESEARCH ACTIVITY	NUMBERS INTERVIEWED
Focus group discussions – Hammar woreda	13 men, 10 women
Focus group discussion – Benatsemi woreda	8 women + 4 men
Key informant interviews – Hammar woreda (Livestock and fisheries, Omo Microfinance)	2
Key informant interviews – Benatsemi woreda (Cooperatives, Environmental protection, Omo Microfinance)	3
Key informant interviews – South Omo zone (forestry, cooperatives, environmental protection)	3
Key informant interviews – project staff (national and local)	6

²⁰ See Yaron and Wilson, *Laying the Foundations for Measuring Resilience*, 2016. BRACED working paper, UK for more details.

Key findings: MAR, Ethiopia

The following key findings were derived from a set of FGDs and KIIs:

1. **Community members scored rangeland management as the most important BRACED intervention, while project staff ranked VSLAs first. Both have good reasons for doing so.**

The male Hammar focus group emphasised that some of their tribe members, who had been forced to take their cattle near the national park during the drought, had come into conflict with other tribes and people had been killed. The feeling was that, having BRACED PNRM at the time, meant fewer men had to do this and thus saved lives. PNRM was the most highly rated resilience intervention among communities. Project staff also recognised the benefits of PNRM but highlighted that it required a significant time investment to secure them in South Omo's pastoralist communities. Taking these costs into account, project staff scored VSLAs more highly than PNRM.

2. **VSLAs combined with basic business training, have provided new livelihood opportunities by supporting micro-businesses (typically producing and selling local food and drink), petty trading and animal fattening for sale. This is sustainable, but there are constraints in scaling up.**

Some community members felt that profits generated from VSLA loans had made them significantly more resilient to the drought, but this was not articulated by most focus group participants. This may reflect the fact that their VSLAs had only been in place for a year or less when the significant drought in 2016 hit. More generally – women members have

gained financial and social autonomy as a result, recovery from the drought has been faster than would normally be expected, and the benefits in terms of income generated, are nearly five times project costs, even with very conservative assumptions. There are however, some challenges in scaling VSLAs in this context, including:

- The need to find a financially sustainable model for VSLA creation and support.
 - Graduation of VSLAs to Rural Savings and Credit Cooperatives (RuSACCOs). Cooperative legislation on minimum group size and loss of flexibility over loan purposes are likely to be constraints.
 - The potential need for additional business training when VSLA loans become larger, longer-term and lower interest as a result of RuSACCO or Omo Micro Finance linkage.
3. **FGD participants had used weather forecasts, both to more effectively plan agricultural activities and also to avoid storm impacts, but reaching wider groups has been difficult.**

Project staff considered the following factors as limiting the reach of broadcasts to a number of communities:

- The time lag resulting from the subsequent transmission of radio messages by word of mouth.
 - Limited coverage of radio broadcasts in some areas.
 - Broadcasts in Amharic, while many community members have a limited understanding of Amharic.
4. **Zonal government officials felt their ability to support project interventions was constrained by a lack of resources.**

This was magnified by the political requirement for them to provide equal support to each of the 16 tribes in the zone, even though some woredas and kebeles needed more support than others. While this is likely to constrain scaling and replication, project interventions appear to be sustainable for those who have received them.

5. **The resilience index used for the MAR baseline survey needs review to adequately capture project contributions in pastoralist/agro-pastoralist communities.** This is because:

- The target 15% increase in savings or 100 Birr threshold, is both arbitrary and appears to be far too low.
- Many respondents in these communities may not be able to meaningfully answer whether savings have increased by 15%.
- Questions on weather information and watershed management need to be modified to work effectively for pastoralist communities.
- The weighting of the resilience index could better reflect community experience in different regions.

Summary: Effective and potentially sustainable model in Ethiopia

Overall, interventions appear to be viewed as effective by beneficiaries and project staff in South Omo. However, we must be cautious in drawing any general conclusions based on the findings presented here as it represents only a small sample study in one of the four regions in which the project operates. VSLAs combined with training to manage them and the loans made available appear to have both a positive

effect – supporting livelihood diversification and providing access to finance in times of climate stress – and be potentially sustainable. Project efforts to link existing national and regional financial services suggest that the interventions may be at least sustainable if not scalable. Current beneficiaries are likely to be able to sustain the VSLAs after BRACED funding finishes.

For future rounds of assessment by the project (planned for spring 2019) the resilience index being used and in particular the thresholds which determine whether a household's resilience capacities have been increased or not need to be revisited.

Read more in the full report: **The market based approach to resilience in Ethiopia: qualitative evidence from South Omo**

A photograph of a woman in a rural agricultural setting, carrying a young child on her back. She is standing in a field of large-leafed plants, possibly a vegetable garden. In the background, other people are visible working in the field under a clear sky. The image is overlaid with a semi-transparent blue filter.

5. CROSS-COUNTRY FINDINGS

IMAGE:
ALEXANDRA
RIBOUL/FFP
WASHINGTON

In this section we draw together and compare the findings across a range of common areas in an attempt to identify key commonalities and differences in terms of results from the three projects. The contexts in which the three BRACED projects are operating differ socio-politically, institutionally, climatically and culturally. However, they all share common features in terms of climate risks and hazards and the vulnerability of their citizens to increasing uncertainty, long-term stress and sudden onset idiosyncratic (localised) and co-variate (widespread) shocks. While the nature of the projects and the contexts in which they are operating varies, there are similarities in terms of intervention typology. Furthermore, by using the 3As + T as a framework we are able to compare across projects in a useful way.



A note of caution when interpreting these results

As noted in the methodology section, the results presented in the previous sections were collected in different ways. Evidence from Myanmar and Niger was the result of representative large sample household survey work using experimental methods. The Ethiopia component was a small sample, qualitative case study included in this stream of work under BRACED. Results cannot therefore be directly compared. They have been included in this section for completeness but should not be considered representative but indicative and warranting further research. When presenting results from Ethiopia in comparison to others we have been conservative in our assessment.

Tables 4 and 5 collate summary findings from each of the three projects and present them side by side. We then apply a series of ratings to each project to allow comparison using the following legend:

LEGEND: RATING	DESCRIPTION	LEGEND: LEVEL OF AGREEMENT	DESCRIPTION
++	Overall positive results	Good	All three projects have the same rating
+	Results mixed, unclear, inconclusive or statistically non-significant	Moderate	1 project's rating differs or is missing results
-	Negative results	Low	<2 projects have the same rating or are missing results

Table 4 assesses each project against the 3As + T framework using the following definitions and expert judgement based on the findings of the evaluations discussed here:

3AS + T DIMENSION	DESCRIPTION
Anticipatory	Anticipatory capacity is the ability of social systems to anticipate and reduce the impact of climate variability and extremes through preparedness and planning.
Absorptive	The ability of social systems, using available skills and resources, to face and manage adverse conditions, emergencies or disasters. While anticipatory capacity comes into play before a shock or stress, absorptive capacity is exercised during and after a disturbance has occurred to reduce the immediate impact on people's livelihoods and basic needs.
Adaptive	Adaptive capacity is the ability of social systems to adapt to multiple, long-term and future climate change risks , and also to learn and adjust after a disaster. It is the capacity to take deliberate and planned decisions to achieve a desired state even when conditions have changed or are about to change.
<i>Transformational Potential Dimensions</i>	
Sustainability potential:	Processes of resilience building sustained once BRACED support ends for particular projects.
Scalability potential	Resilience building interventions used at a greater scale or in integrated combinations with much larger effects than before. This may also refer to the potential of the approach to be scaled up through replication .
Catalytic potential	Catalytic effects imply the ability to leverage change beyond the direct project activities, including the replication and financing of similar approaches by others, or direct co-financing/ collaboration in the project itself

Source: (Bahadur et al. 2015)

Table 5: Summary and comparison of key findings from three country studies including an overall assessment of the results and level of agreement

FINDING AREA	BRACED MYANMAR ALLIANCE		SUR1M		MAR		LEVEL OF AGREEMENT
	Rating	Description	Rating	Description	Rating	Description	
Overall project effectiveness at building resilience	++	BRACED beneficiary households score more highlight on the resilience index than control households overall. However, differences are modest and there is variability across dimensions and townships.	++	The BRACED project beneficiaries appear to be better equipped to deal with shocks even with greater exposure than those who did not receive interventions in the same area.	+	Our study was only focused on one region of the project and therefore we cannot draw conclusions on the whole project. There are indications that the interventions we looked at were beneficial.	Moderate
Intervention effectiveness							
1. Financial Services (VSLA, Microfinance and SILC)	++	VSLA & Microfinance and associated training are linked with the greatest statistically significant overall resilience gains for project treatment groups relative to control groups. Related cost benefit analysis in four townships indicate significant economic returns to VSLA.	++	One of the most commonly used coping mechanisms was to take out a loan. Beneficiaries were able to do this in times of need without needing to rely on punitive informal loans.	++	VSLAs combined with basic business training, have provided new livelihood opportunities by supporting micro-businesses (typically producing and selling local food and drink), petty trading and animal fattening for sale. Some community members felt that profits generated from VSLA loans had made them significantly more resilient to the drought.	Good
2. Agro-pastoral (livestock, climate smart agricultural)	+	There are statistically non-significant results which indicate the Climate- Resilient Smart Agricultural had a marginal benefit to a low number of beneficiaries. Support to livestock rearing (pigs and chickens) appeared to be more successful but for a low number of people and is viewed more as a diversification intervention.	++	Climate smart agricultural practices have been widely used by beneficiaries as a positive strategy in the face of ongoing drought in project areas.	n/a	Results unavailable.	Low
3. Natural Resource Management	+	Water management – flood clearance, flood defences and potable water storage contributed to HH resilience but often combined with other interventions which means their effectiveness could not be fully assessed.	+	The effects of all NRM work e.g. greening is unclear based on our evaluation results.	++	Community members indicated that rangeland management was the most important BRACED intervention, providing more consistent fodder for agro-pastoralists and avoiding resource competition and inter-community conflict.	Moderate

Table 5 continued

FINDING AREA	BRACED MYANMAR ALLIANCE		SUR1M		MAR		LEVEL OF AGREEMENT
	Rating	Description	Rating	Description	Rating	Description	
4. Climate information (weather forecasts, early warning systems)	+	There is substantial variation in impact across the eight townships, particular in the benefits of access to climate information. Some townships benefitted greatly while others saw their resilience score decrease in this dimension.	+	Statistically significant results show that those receiving project interventions were more likely to use early warning system information to plan for climate shocks and variability.	+	Some success but with limitations. Beneficiaries had used weather forecasts, both to more effectively plan agricultural activities and to avoid storm impacts. Issues include: The time lag, limited coverage of radio broadcasts and language issues.	Good
5. Policy, institutions and community organisation	+	The results of any national policy advocacy work is difficult to see at the household level but community organisation is improved and linked to increased HH resilience.	n/a	Results unavailable.		Results unavailable.	Low
Higher order wellbeing outcomes	+	There is no evidence that BRACED increased food security over the project life. Modest increases in resilience capacities do not translate to significant increases in food security in the limited time between baseline and endline (two years).	+	SUR1M HH not characterised by a level of food security or dietary diversity higher than that of the non-beneficiaries suggesting that at this stage the SUR1M project does not have a long-term impact on the well-being.		Results unavailable.	Moderate
Differential impacts	+	Female-headed households in project areas appear to benefit significantly from project interventions relative to control groups. HH with more assets had larger positive changes in the overall KPI index.	+	Some evidence that climate shocks do not disproportionately effect female households but inconclusive.		Results unavailable.	Moderate

Table 6: Cross project comparison of project evaluation results against 3As + T Framework

3 A'S +T	BRACED MYANMAR ALLIANCE		SUR1M		MAR		LEVEL OF AGREEMENT
	Rating	Description	Rating	Description	Rating	Description	
Absorptive	++	VSLAs were effective in providing funds in the face of climate shocks. Better water management meant that potable water remained available in times of flood and people were still able to get to work or school when inter-annual flooding occurred.	++	SILCs made money available as loans during a period of climate stress and avoided the need to exercise negative coping strategies.	++	Better natural resource management prevented conflict in times of stress. The availability of emergency funds from VSLAs during a climate shock reportedly avoided the deployment of negative coping strategies.	Good
Anticipatory	+	Results of the better use of climate information as part of an improved early warning system were mixed. Increased community organisation was said to have been successful but this intervention was not tested in the face of a climate shock during the project period.	+	Demand for access to better climate information was one of the positive responses exercised by the project beneficiaries but the efficacy of public broadcasts notifying bigger populations remains unclear.	+	Broadcasts were welcome and somewhat effective for the people who received them. However, this is limited by interpretation issues and lack of coverage.	Good
Adaptive	+	Longer term changes to agricultural systems are unclear. There is some evidence of farming communities making use of climate/weather data to inform decision making but this appears more ad hoc/reactive. Livelihood diversification towards animal rearing and some skills development with training show statistically non-significant positive results.	++	The following adaptive coping strategies showed significant positive results for beneficiary households: <ul style="list-style-type: none"> • Apply conservation agriculture techniques • Cultivate drought-resistant crops • Some household members are fishing • Getting in touch with extension services 	+	Longer term strategies such as the better management of rangeland to support the availability of fodder in climatically stressed periods appears to have been viewed positively by beneficiaries but this is neither conclusive nor representative.	Moderate

Table 6 continued

3 A'S +T	BRACED MYANMAR ALLIANCE		SUR1M		MAR		LEVEL OF AGREEMENT
	Rating	Description	Rating	Description	Rating	Description	
<i>Transformative Potential</i>	Low		Medium		Medium–High		Good
Sustainability potential: processes of resilience building sustained once BRACED support ends for particular projects.	Unclear	The Myanmar project has finished and will not be funded under BRACED X. It is unclear whether interventions such as VSLAs and community organisation will be sustained based on the capacity of local officials and residents.	Medium	The SUR 1M project is continuing to implement in Niger and Mali. The success of SILCs in particular may be something which could be sustained beyond BRACED funding.	Medium	Investing in training for those involved with financial services represents an opportunity to sustain effects beyond the project lifetime for those who have already benefitted.	Moderate
Scalability potential: resilience building interventions used at a greater scale or in integrated combinations with much larger effects than before. This may also refer to the potential of the approach to be scaled up through replication.	Unclear	The project has engaged with government agencies and non-governmental organisations in Myanmar. If relevant lessons can be drawn from the work, it may be scalable by other local agencies.	Unclear	The SUR 1M model may be replicable in similar contexts but there is currently no evidence of this happening beyond the project boundaries.	High	While potentially sustainable for those already benefitting, scalability potential is less clear. Graduation of VSLAs to rural savings and credit cooperatives (RuSACCOs). Cooperative legislation depends on minimum group size and loss of flexibility over loan purposes are likely to be constraints. There may be a need for additional business training when VSLA loans become larger.	Moderate
Catalytic potential: Catalytic effects imply the ability to leverage change beyond the direct project activities, including the replication and financing of similar approaches by others, or direct co-financing/ collaboration in the project itself.	Medium	Additional financing has not been forthcoming despite the interest from MDBs and the profile of the project. There is some uncertainty about future bi- and multi-lateral aid funding in Myanmar given the internal political context which may limit the catalytic potential for replication.	Low	The project is not focusing on engaging with local or national government as a possible means of catalysing further investment in the resilience building model.	Medium	The interventions are being linked to existing finance institutions regulated by the Government of Ethiopia and therefore could have potential for catalysing wider adoption of project approaches, in particular to VSLA.	Moderate

Summary: Project comparisons

We have been able to offer some level of cross project comparability by identifying common intervention types and through the 3As + T framework. Overall, all projects appear to have had a positive effect on household resilience capacities at an aggregate level, although we are able to say less about MAR given the narrow focus.

At the intervention level, there appears to be a consistently positive set of results for resilience gains as a result of financial services, in particular community savings groups (VSLAs and SILC) although this is not representative for Mar, Ethiopia. The picture is more mixed across other common intervention types. There is some consistency in the effects of climate information in that all projects have achieved variable outcomes with this type of intervention. The results have been positive in some cases and less so in others with some limitations in terms of coverage and access. Given the nature of the programme, ensuring that climate, or in most cases, weather information is accessible and used to inform short-to-medium-term decisions appears to be critical. Lessons can be drawn on how to improve this for future efforts and translate this into greater resilience gains.

While results are mixed in terms of differential benefits for subgroups there is no evidence of systematically less positive results for female households although the poorest in Myanmar may be less able to leverage maximum benefit from BRACED investment.

The results of evaluations indicate that projects have been unable to translate intervention level effects on household resilience improvement into longer-term, higher order well-being impacts. We believe this to be primarily owing to the relatively short amount of time between data collection rounds.

In terms of the 3As, our evidence suggests that all projects have had some success in enhancing absorptive capacity, principally through offering effective financial service interventions. However, the survey evidence suggests it is just not realistic to expect project interventions to deliver the kind of absorptive capacity to build resilience to very large, co-variate shocks in two or three years. Projects have been less successful at building anticipatory capacity through the provision or augmentation of climate or weather information which may come as somewhat of a surprise. The evidence for influencing adaptive capacity is even less clear cut based on our assessments but this could be expected given these may be longer term changes not yet detected through our evaluations. Securing significant increases in assets and widespread changes in livelihoods required to build adaptive capacities would appear to be too high a hurdle for project interventions in a relatively short timeframe. That said, there are localised examples of increased adaptive capacity, with farmers trying new crop varieties which are drought or flood resistant or are adopting entirely new livelihood options such as livestock rearing (drawing on microfinance).



6. CONCLUSIONS

IMAGE:
EVANGELOS
PETRATOS EU/
ECHO

In this section we provide a set of conclusions based on the evidence and findings presented in preceding sections and drawn from the main reports upon which they are based. These conclusions are organised by country with a final subsection aimed at drawing across each of the country-level conclusions.

6.1 Lessons from the BRACED Myanmar Alliance

THE BRACED MYANMAR ALLIANCE PROJECT HAS POSITIVELY AFFECTED RESILIENCE CAPACITIES OVERALL

Our findings indicate that the project had an overall positive net effect on household resilience but there is substantial variability by location and across dimensions. There is good evidence that

it has increased resilience to climate shocks as measured by the multidimensional resilience index. However, the increases (while statistically significant) are modest and mainly reflect household capacities to anticipate and adapt.

IT IS A PACKAGE OF INTERVENTIONS THAT APPEARS TO MAKE THE MOST DIFFERENCE

This may not be surprising, as the assumptions in the project ToC suggest it is a combination or package of interventions that are likely to have the greatest effect. To see this assumption confirmed in practice and supported by quantitative, statistically significant data indicates that investing in a combination of interventions with high intensity is likely to produce the best results.

Township-specific effects are relevant here. For example, in Meikhtila, virtually all targeted households benefit from infrastructure plus another intervention. This may indicate that technical interventions are not sufficient by themselves to raise levels of resilience. The strength of the BRACED Myanmar approach lies in pairing infrastructure projects (e.g. raising roads and protecting water access points) with 'softer' interventions – for example training around weather information and VSLAs.

MORE INTENSE SUPPORT HAS THE MOST EFFECT ON RESILIENCE

Our findings show that there is only incremental change in terms of resilience gains through offering one or more interventions but that significant gains are offered with a higher number of interventions. This indicates that, with limited resources, there may be some benefit in focusing on a particular single, highly effective intervention but that what makes the real difference is being able to offer four or more interventions. There may be limited value in spreading resources thinly across two to three interventions; focusing on well-targeted and effective interventions to a larger number of households could be more beneficial.

Those receiving intensive support (packages of interventions including infrastructure, training and microfinance, for example) see the largest gains but these do not transform resilience or well-being when viewed across all eight townships.

It is important to note that these packages of interventions generate benefits that substantially exceed costs (Yaron and Wilson, forthcoming) and are well worth making. However, policy makers and funders should recognise that this type of project can only do so much, in the sense of:

1. Significantly increasing self-assessed resilience in the face of regular annual shocks for those benefiting from a combination of infrastructure and high-intensity support, but not in the face of extreme events such as cyclone Nargis;
2. Transforming the well-being of subgroups of beneficiaries in certain contexts (e.g. successful pig-breeding interventions), but not scaling this to a large proportion of households in target areas in the project lifetime.

ACCESS TO AND USE OF CLIMATE INFORMATION SUPPORTS IMPROVED DECISION MAKING

Provision of climate information by itself appears to be ineffective, however in some communities, training on how to use weather and early warning data seems to add considerable value to the Government of Myanmar's efforts to increase the provision of this data. There is also some qualitative evidence to suggest that this information has been actively used to support decision-making in farming households towards more positive coping mechanisms.

ENGAGING COMMUNITIES IN PLANNING AND PRIORITISING ACTIVITIES APPEARS TO BE EFFECTIVE

However, equity issues need to be addressed and funding distribution and limitations need to be recognised. The

community planning process used by BRACED Myanmar worked well but there are lessons in maximising access for the marginalised within development programming in Myanmar. We found evidence that communities in the target areas in which Myanmar was not spoken as a first language failed to gain from project interventions. These communities were poorer and less resilient on average. NGOs working in these areas need to ensure they have language capabilities to work with the most vulnerable.

PROGRAMME TIMELINES NEED TO BE ALIGNED WITH REALISTIC TIMEFRAMES FOR CHANGE

Higher order well-being indicators (e.g. food security) seem unchanged as a result of project interventions, which may reflect insufficient time to realise the potential of the interventions. It is unrealistic to expect project interventions to deliver widespread, significant increases in well-being measures such as food security in the two years between baseline and endline.

RESILIENCE MEASUREMENT CHALLENGES REMAIN

There are lessons to be learnt in how to measure and assess changes in resilience as a result of project interventions. It proved very difficult to ask people about perceived resilience in the face of 'severe shocks' as their responses were anchored by the most severe shock they had experienced in the past decade – that is, cyclone Nargis. This was an extreme, once in 100-year, event that was not an appropriate benchmark against which to assess project interventions. The large majority of survey respondents did not face unexpected flood events between baseline and endline and so, when we asked how people would cope with a severe shock, they typically answered in relation to Nargis. As there were no unexpected shocks, it would have been better to include survey questions on regular annual shocks.

TREATMENT COMMUNITIES MAY NOT BE THE MOST IN NEED OF SUPPORT

Given the systematically higher levels of resilience in control communities, our interpretation is that this is the result of long-term and pre-existing support to those communities by the implementing NGOs. This prior history also raises questions about whether BRACED-style interventions can be expected to provide equivalent results if implemented in communities without a history of NGO involvement, given the time spent building capacities and relationships within these communities.

BRACED MAY NOT BE OPTIMALLY DESIGNED TO BENEFIT THE POOREST IN MYANMAR

More thought needs to be given about how to carry out resilience work in very poor communities, as the findings of this report indicate that the poorest are not able to leverage the resilience dividends of BRACED interventions like people with more assets do. This could be because the community planning model has not been successful at identifying interventions effective with vulnerable groups. In two cases, the preferred intervention was outside the scope of the BRACED project resources. Equally, it could emphasise the intractable nature of the impacts of poverty on resilience-building.

6.2 Lessons from SUR1M, Niger

THE PROJECT IS TARGETING THOSE AT GREATEST RISK FROM CLIMATE SHOCKS

Households targeted by SUR1M appear to have reported higher exposure to shocks/stressors than control households. The difference was found to be statistically significant. Two possible scenarios can be advanced to explain this.

1. The households and agro-pastoral production system most vulnerable to shocks and stressors are effectively in the treatment villages. This would confirm the appropriateness of the initial geographical targeting strategy adopted by SUR1M to identify the intervention villages for the project, which was done in consultation with the municipal authorities and consisted in prioritising interventions for the most vulnerable villages.
2. Households in treatment villages through EWS and CMDRR project activities have learned how to collect information on, monitor, analyse and respond to shocks, so they are the most likely to report on these shocks

THOSE BENEFITING FROM THE BRACED PROJECT APPEAR TO HAVE INCREASED RESILIENCE CAPACITIES MORE THAN THOSE WHO DO NOT WHEN FACED WITH A SHOCK

The data reveals that households in the control group found it slightly harder to absorb shocks than households in the treatment group. Also, the proportion of control households reporting losses of income and assets and/or increases in intra-household tension was higher than the proportion in treatment households. These different preliminary results could be interpreted as initial evidence that SUR1M activities have had positive effects on the beneficiaries of the project since these beneficiaries seem to do better than non-beneficiaries even though they may have been exposed to more shocks/stressors.

PROJECT BENEFICIARIES ARE LESS LIKELY TO ENGAGE IN NEGATIVE COPING STRATEGIES

At the intermediate outcome level, results show that beneficiary households seem to be less likely to engage in negative coping strategies than non-beneficiaries. More specifically, among the five most reported negative strategies, SUR1M households display

a lower propensity to engage in four of them and the difference is statistically significant for two out of these four cases: 'reducing food consumption' and 'changing the type of food consumed'.

PROJECT BENEFICIARIES RELY ON NEGATIVE COPING STRATEGIES FOR A SHORTER PERIOD OF TIME

In addition to the nature of coping strategies adopted, we also investigated the duration of these coping strategies. The data shows no difference between the beneficiaries of the SUR1M project and the control, except for on 'taking loans/borrowing money', for which control households show a statistically longer period of adoption than treatment households. These control households are also more likely to borrow from local shop-owners and local money-lenders – a strategy recognised in the literature to be risky as it is often associated with relatively high interest rates (e.g. Guérin et al., 2014).

PROJECT BENEFICIARIES RECOVER MORE RAPIDLY FROM A SHOCK

At the final outcome level, the household capacity to bounce back after a shock was tested for the most important shock/stressors, using a self-reported indicator of household capacity to recover from past events. The results indicate that although the SUR1M beneficiaries were on average exposed to a larger number of shocks than non-beneficiaries those treatment households reported a statistically significantly higher capacity to cope with a range of the most common shocks when compared with the control group.

DESPITE BETTER RESULTS FOR BRACED BENEFICIARIES, THE EFFECTS ON HOUSEHOLD LONG-TERM STATUS ARE UNCLEAR AT THIS STAGE

We hypothesised that, overall, if households are more resilient to shocks and stressors, they should be more effective at 'protecting/buffering' their well-being against the impacts of these shocks/stressors than less resilient people would be. In the

context of our evaluation, this means that, if the SUR1M were successful at building the resilience of the beneficiaries, then these beneficiaries should display a higher level of food and nutritional security. The comparison of the two indicators showed no specific difference between the beneficiaries of the project and the control households, suggesting that, at this stage and after two years of implementing activities, the SUR1M project does not have a clear long-term impact on the well-being of its beneficiaries.

6.3 Lessons from MAR, Ethiopia

PROJECT INTERVENTIONS: EFFECTIVE, POTENTIALLY SUSTAINABLE AT CURRENT LEVELS BUT SCALABILITY QUESTIONS REMAIN

All three project interventions considered in the context of pastoralists in South Omo (PNRM, VSLAs and use of weather information) were thought by beneficiaries to be effective to a lesser or greater degree. They may also be sustainable in the sense that recipients appear to have gained the capacity to continue VSLA groups post project. The question of whether these can be replicated or scaled by government is quite different. Despite community members scoring PNRM as the single most effective drought resilience intervention, it requires far more support than government offices at zonal or woreda level can realistically provide through a lack of resources.

VSLAS REPRESENT THE GREATEST SCALABILITY POTENTIAL

In contrast, there appears to be a much better chance of scaling up the number of VSLAs. Communities narrowly ranked them second to PNRM in terms of building drought resilience and project staff (considering the time costs involved) ranked them first. One note of caution though is the interdependence of PNRM and VSLAs for some households. The FGDs provided

examples in which PNRM played a critical role in generating the funds for VSLA savings but there were other examples in which VSLAs enabled livelihood diversification through trading and micro business. More work will be needed to understand which groups within pastoralist communities will be affected by the focus on VSLAs.

TRAINING KEY FOR SUSTAINING VSLAS

Our findings suggest that the business training provided as part of establishing VSLAs has played an important role in generating income. This will need to continue but, given the difficulty of making the private sector agent model work in the pastoralist communities we met, other ways of doing this may be needed. In the South Omo context, RuSACCOs and Omo microfinance could potentially fulfil this role but it is currently not their mandate.

FORMALISING VSLAS IS NOT WITHOUT CHALLENGES

The conversion of established VSLAs to RuSACCOs and linkage to Omo microfinance offer potential to increase loan sizes and hence grow micro-businesses. We have noted challenges of finding 'matching' VSLAs to bring together and for government partners to avoid imposing loan conditions that undermine the flexibility and responsibility embodied by successful VSLAs. In addition, the transition from VSLA to RuSACCO or microfinance loan recipient implies larger loans at much lower interest rates and a longer time horizon. This means that there are a wider set of business activities that are potentially financially viable than those originally chosen in order to pay back a loan at much higher interest rates (e.g. 10% per month) in a short period (e.g. two to three months). However, additional business training may be needed to help borrowers take advantage of new opportunities made possible by larger loans at lower interest rates and over a longer time period.

COST EFFECTIVENESS OF INTERVENTIONS A CONSIDERATION FOR SUSTAINING THEM

The divergence between community and project staff scoring on project interventions reflect what appears to be an implicit cost-benefit analysis by project staff whereas communities naturally do not consider the high costs of PNRM borne by the project. This confirms the importance of considering both costs and benefits when evaluating project interventions. This is an important point when considering sustainability beyond current BRACED funding. Understanding which interventions are not only most effective but most efficient at maximising resilience gains is important for future programming and potential adoption by local or national institutions including, but not limited to, government.

Summary

In presenting country level findings based on rigorously collected and analysed data, we have been able to draw some compelling conclusions and lesson from each country context. As described earlier, the methods used to reach these conclusions do not lend themselves well to broader generalisations. We must also be cautious in drawing collective conclusions based on country-level evidence. With that said, we provide some common conclusions organised around three key points to summarise this section:

1. **Intervention effectiveness:** Which interventions are offered, in what combination and with what intensity all effect the extent to which household level resilience changes. This may seem an obvious point but we have been able to confirm this assumption with rigorous evidence albeit from only three of 15 BRACED projects. However, this also aligns with evidence collected from across the whole programme which

suggests that 'linking and layering' of interventions is one of the critical processes or dimensions of a resilience building identified by a review of all 15 projects (Silva Villanueva et al., 2018). Each evaluation has noted variable effects of different interventions with some consensus around the value of offering financial products. Less clear cut is the role of climate information which one may assume would be the cornerstone of any climate-resilience programme.

2. **Targeting the most at risk:** Given the operating environments in which the projects are working, the majority of beneficiaries are vulnerable to climate shocks and stresses. However, this is not a homogenous characteristic and treatment beneficiaries may be more or less at risk than others with significant variation within those communities. We found that in some cases (Niger) those targeted are systematically more at risk than other nearby communities not receiving project interventions and that they fared better when benefiting from the project when shocks did occur. This suggests that targeting by the project has worked. In other cases (Myanmar) we see that those with greater assets (a proxy for level of poverty) are unable to take full advantage of the interventions and translate this into resilience gains.
3. **Outstanding questions:** There is clearly a limit to the evidence we have been able to derive from the evaluations which leaves a number of unanswered questions and gaps in our knowledge. These include:
 - **The effects of government and policy engagement work:** our evaluations were unable to determine the household-level effects of any local or national policy engagement work undertaken by the projects. It is difficult to attribute any changes to such interventions

and it may take longer for any changes to become apparent even if we could. There is clearly a place for policy work at different levels as part of a holistic programme and to potentially sustain and scale impact (see final point below) but different approaches to gauging impacts of this work are required.

- **Which combination of interventions is most cost effective:** Our analysis has not been able to determine an optimal configuration of interventions which provides the most efficient (in terms of time and resources) increases in resilience. Funders may wish to consider this as part of their Value for Money assessment for future programming decisions.
 - **To what shock level communities may now be resilient:** While we may have been able to attribute positive changes in resilience capacities at the household level we have not been able to determine to what magnitude or indeed frequency of shock or stress that improved level of resilience will allow a household to recover from. It may be that projects have made marginal increases in resilience which will allow them to recover from a small-scale idiosyncratic shock but not a large, 1 in 25-year shock. More research is required to understand whether a minimum level of resilience is required.
 - **Transformational change:** Our evaluations were not designed or required to assess the degree to which transformation change has occurred or is likely. We have tried to highlight where we may see signs of potential for effects to be sustained, scaled or replicated (dimensions of transformational change according to the ICF KPI 15 guidance) but have been unable to offer much insight on this point.
-



7. RECOMMENDATIONS

IMAGE: UNICEF
ETHIOPIA/2014/
OSE

Building on the country-level results, collective findings and conclusions, we offer here a set of evidence-based recommendations. The recommendations are aimed at, tailored to and organised by different primary target audiences:

- **DFID advisors** including but not limited to those involved with BRACED and resilience programming;
- **DFID country offices or representative** in particular in the three focus countries or regions;
- **Other donors** who may be considering investing resilience building in developing countries;
- **BRACED Implementing Partners and other NGOs** delivering resilience programmes or projects;

- **M&E practitioners** who have or are attempting to measure or detect changes in household level resilience.

Recommendations are presented in Table 6 with reference numbers, proposed priority levels (high, medium, low) and indicative time frame (short: within the next 12 months, medium: 1–3 years, long: >3 years) offered. Assignment of priority and timeframe is made by the authors based on their understanding of the audience's planning horizons and strategic or operational priorities.

Table 7: Recommendations based on the evidence from the evaluation findings presented in this report

REF.	RECOMMENDATION	TARGET AUDIENCE	PRIORITY	TIME-FRAME
1.	<p>Layering and sequencing interventions</p> <p>Programme designers need to ensure that there is a strong logic to the nature and sequencing of interventions. This can be included in the business case design, translated into procurement terms of reference and project development phases. Project implementers should be able to demonstrate that their interventions are context appropriate and build on one another to maximise resilience benefits. Building in flexibility to change these combinations is advisable.</p>	<ul style="list-style-type: none"> • DFID advisors • Other donors • BRACED Implementing Partners and other NGOs 	Medium	Medium
2.	<p>Intervention Intensity</p> <p>Programme implementers need to identify an optimum level of intensity – number, focus and frequency of interventions provided to households in packages. These may be more intense for the most vulnerable which may require more investment.</p> <p>Funders should consider whether their desired impact is wide – reaching the greatest number of people with a lower number of interventions (the current driver via ICF KPI 1) – or deep (increasing the resilience of a smaller number of households by a larger order of magnitude.</p>	<ul style="list-style-type: none"> • BRACED Implementing Partners and other NGOs • DFID advisors • Other donors 	High	Medium
3.	<p>Financial services should be included as part of a package of interventions</p> <p>Our evidence indicates that financial services (community savings and loans as well as micro-finance) appear to be an effective ingredient for resilience building. Implementers should find ways to increase the reach of these types of interventions and link them to existing institutions in their contexts.</p> <p>Funders may consider incentivising the inclusion of financial services, linked to other related interventions (e.g. training and livelihood diversification) in future programmes.</p>	<ul style="list-style-type: none"> • DFID advisors • Other donors • BRACED Implementing Partners and other NGOs 	High	Medium

Table 7 continued

REF.	RECOMMENDATION	TARGET AUDIENCE	PRIORITY	TIME- FRAME
4.	<p>The role of climate information needs to be revisited</p> <p>Provision of accurate, timely and useful climate information (or more accurately, weather information) remains an imperative for building climate resilience. However, we believe there has been too great a focus on either climate information which is misaligned to scale or too great a focus on the sharing of information with insufficient focus on its utility. Project implementers must ensure a focus on the utility of climate information and engaging with end users to ensure it matches need. Donors and programme designers should incorporate a requirement on climate information utility into funded projects terms of reference.</p>	<ul style="list-style-type: none"> • BRACED Implementing Partners and other NGOs • DFID advisors • Other donors 	Medium	Medium
5.	<p>Optimise intervention efficiency</p> <p>Further thought needs to be given, not only to whether interventions work but whether they are cost effective to deliver. More efficient interventions may be more likely to be sustained by communities or resource-constrained local or national governments.</p> <p>Funders wishing to understand better the costs vs benefits for investments should allocate funding to support the development of simple methodologies to do so in a complex resilience programme. These can then be used by implementing partners to track costs and benefits over the project lifetime.</p>	<ul style="list-style-type: none"> • DFID advisors • Other donors 	Medium	Long
6.	<p>Resilience measurement using ICF KPI 4</p> <p>Impact evaluations are challenging for resilience programmes with multiple interventions. Qualitative data is important in helping to determine and understand outcomes and needs to be correctly sequenced with quantitative data collection.</p> <p>KPI 4 guidance may does not require a common approach across all projects. This limits the ability to compare cross project. A review of the efficacy of different KPI 4 measurement approaches under BRACED would be beneficial.</p>	<ul style="list-style-type: none"> • M&E practitioners • DFID advisors 	Medium	Short
7.	<p>Sustaining impact</p> <p>To understand how to sustain impact beyond the BRACED funding window, DFID should consider commissioning independent ex-post evaluations focused on this aspect of transformational change.</p> <p>With the Myanmar project not progressing into the BRACED extension phase, there is an opportunity to do this quickly.</p>	<ul style="list-style-type: none"> • DFID advisors • BRACED Implementing Partners 	Medium	Short

Table 7 continued

REF.	RECOMMENDATION	TARGET AUDIENCE	PRIORITY	TIME-FRAME
8.	<p>Government engagement</p> <p>If sustaining and scaling impact is a priority for the DFID and other donors then engaging with government at local, national and regional levels to share knowledge and influence policy appears to be critical. More research is needed to understand what impacts this will have for vulnerable households and an opportunity exists via policy work within the BRACED extension period to do this.</p>	• DFID Advisors	High	Short
9.	<p>Targeting and access for the poorest</p> <p>There could be a threshold of assets, literacy, etc. below which participation and meaningful engagement of the poorest and most marginalised are extremely difficult, even in carefully designed interventions. For these communities, directly tackling poverty may be the most effective way of raising resilience to climate extremes and disasters.</p> <p>Therefore, project implementers may wish to consider a focus on provision of basic services as a starting point for these communities followed by targeted, explicitly resilience-oriented, interventions.</p>	• BRACED Implementing Partners and other NGOs	High	Medium
10.	<p>Evaluation planning and timing</p> <p>Donors commissioning impact evaluations of resilience programmes should ensure sufficient lead-in time is provided to avoid issues of baseline timing and allow for a wider range of methods to be used. Donors may also wish to consider commissioning ex-post evaluation once projects have finished to a) allow maximum time for project effects and b) explore the sustainability of those effects.</p>	• BRACED Implementing Partners and other NGOs • DFID advisors • Other donors • M&E practitioners	Medium	Medium

References

- Bahadur, A.V., Peters, K., Wilkinson, E., Pichon, F., Gray K. and Tanner, T. (2015) *The 3As: Tracking resilience across BRACED*. BRACED Knowledge Manager Working Paper. London: ODI.
- Barnett, J. and O'Neill, S. (2010). Maladaptation. *Global Environmental Change* 20: 211–13.
- Béné, C., Frankenberger, T. and Nelson, S. (2015). Design, Monitoring and Evaluation of Resilience Interventions: Conceptual and Empirical Considerations. Working Paper 459. Brighton: IDS.
- Béné, C., Al-Hassan, R. M., Amarasinghe, O., Fong, P., Ocran, J., Onumah, E., Ratuniata, R., Van Tuyen, T., McGregor, J. A. and Mills, D.J., (2016). Is Resilience Socially Constructed? Empirical Evidence from Fiji, Ghana, Sri Lanka, and Vietnam. *Global Environmental Change* 38: 153–70.
- Coates, J., Frongillo, E. A., Lorge Rogers, B., Webb, P., Wilde P. E. and Houser R. (2006). Commonalities in the Experience of Household Food Insecurity across Cultures: What Are Measures Missing? *Journal of Nutrition* 136(5): 1438S–48S.
- Coates, J., Swindale, A. and Bilinsky, P. (2007) Household Food Insecurity Access Scale (HFIAS) for Measurement of Household Food Access: Indicator Guide. Washington, DC: Food and Nutrition Technical Assistance Project, Academy for Educational Development.
- Corbett, J. (1988). Famine and Household Coping Strategies. *World Development* 16(9): 1099–12.
- CRS (Catholic Relief Services) (2013). BRACED Full Proposal Application. Niamey: CRS.
- CRS (2017). BRACE/SUR1M Final Evaluation – Inception Report. Niamey: CRS.
- Davies, S. (1996). *Adaptable Livelihoods. Coping with Food Insecurity in the Malian Sahel*. London: MacMillan Press.
- De Janvry, A., Dunstan, A., and Sadoulet, E. (2011). Recent Advances in Impact Analysis Methods for Ex-post Impact Assessments of Agricultural Technology: Options for the CGIAR. Report prepared for CGIAR Standing Panel on Impact Assessment. Rome: Independent Science and Partnership Council Secretariat.

- Dehejia, R. H. and Wahba, S. (2002). Propensity Score Matching Methods for Non-Experimental Causal Studies. *Review of Economics and Statistics* 84(1): 151–61.
- Del Ninno, C., Dorosh, P. A., Smith, L. C. and Roy, D. K. (2001). The 1998 Floods in Bangladesh: Disaster Impacts, Household Coping Strategies, and Response. Research Report 122. Washington, DC: IFPRI.
- Dercon, S., Hoddinott, J. and Woldehanna, T. (2005). Shocks and Consumption in 15 Ethiopian Villages, 1999–2004. *Journal of African Economies* 14(4): 559–85.
- Devereux, S. (1993). Goats before Ploughs: Dilemmas of Household Response Sequencing during Food Shortages. *IDS Bulletin* 24(2): 52–59.
- Diener, E., Emmons, R. A., Larsen, R. J. and Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment* 49 (1): 71–75.
- DFID (Department for International Development) (2011). Defining Disaster Resilience: A Dfid Approach Paper. London: DFID.
- Frankenberger, T. and Nelson, S. (2013) Background Paper for the Expert Consultation on Resilience Measurement for Food Security, TANGO International, sponsored by FAO and WFP, Rome, 19–21 February.
- Gertler, P. J., Martinez, S., Premand, P., Rawlings, L. B. and Vermeersch, C. M. J. (2016). *Impact Evaluation in Practice*, second edition. Washington, DC: IADB and World Bank.
- Gough, I., McGregor, J. A. and Camfield, L. (2007). Introduction: Conceiving Well-being in Development Contexts. In I. Gough and J. A. McGregor (eds.) *Well-being in Developing Countries: New Approaches and Research Strategies*. Cambridge: Cambridge University Press.
- GoN (Government of Niger) (2012). Profil de moyens d'existence – zone agropastorale – Département de Tillabéri. Niamey: GoN.
- Gubbels, P. (2012). A New Drumbeat for the Sahel, *Humanitarian Exchange* 55, September, 3–6.
- Guérin, I., Morvant-Roux, S. and Villarreal, M. (eds) (2014). *Microfinance, Debt and Over-Indebtedness: Juggling with Money*. New York: Routledge.

- Hallegatte, S. et al. (2016). *Shock Waves: Managing the Impacts of Climate Change on Poverty*. Climate Change and Development. Washington, DC: World Bank.
- Heckman, J. J., Ichimura, H. and Todd, P. E. (1997). Matching as an Econometric Evaluation Estimator: Evidence from Evaluating a Job Training Programme. *Review of Economic Studies* 64: 605–54.
- Hoddinott, J. (2006). Shocks and Their Consequences across and within Households in Rural Zimbabwe. *Journal of Development Studies* 42(3): 301–21.
- Jalloh, A., Nelson, G. C., Thomas, T. S., Zougmore, R. and Roy-Macauley, H. (2013). *West African Agriculture and Climate Change: A Comprehensive Analysis*. Washington, DC: IFPRI.
- Kazianga, H. and Udry, C. (2004). Consumption Smoothing? Livestock, Insurance and Drought in Rural Burkina Faso. Discussion Paper 898. New Haven, CT: Yale University, Economic Growth Center.
- Kumar, N. & Quisumbing, A. (2014). Gender Shocks and Resilience. Brief prepared for the Conference on Building Resilience for Food and Nutrition Security, Addis Ababa, 15–17 May.
- Leuven, E. and Sianesi, B. (2003). 'PSMATCH2 Stata Module to Perform Full Mahalanobis and Propensity Score Matching, Common Support Graphing, and Covariate Imbalance Testing'.
- LTSi (2018), Market-Based Approaches to Resilience in Ethiopia: BRACED, Endline report, Penicuik, UK.
- Macintosh, A. (2013). 'Coastal Climate Hazards and Urban Planning: How Planning Responses Can Lead to Maladaptation. *Mitigation and Adaptation Strategies for Global Change* 18(7): 1035–55.
- OECD (Organisation for Economic Co-operation and Development) (2010). *Quality Standards for Development Evaluation DAC Guidelines and Reference Series*. Paris: OECD.
- Rosenbaum, P. R. and Rubin, D. B. (1983). The Central Role of the Propensity Score in Observational Studies for Causal Effects. *Biometrika* 70(1): 41–55.
- Silva Villanueva, Philipps Itty & Sword Daniels (2018) Routes to resilience: insights from BRACED final year. London. ODI.

- Sinha, S., Lipton, M. and Yaqub, S. (2002). Poverty and 'Damaging Fluctuations': How Do They Relate? *Journal of Asian and African Studies* 37(2): 186–243.
- Swindale, A. and Bilinsky P. (2006). Household Dietary Diversity Score (HDDS) for Measurement of Household Food Access: Indicator Guide (v.2). Washington, DC: FHI 360/FANTA.
- Wilson, D. and Yaron, G. (2016). Laying the Foundations for Measuring Resilience. BRACED Working Paper. London: ODI.
- Woodson, L., Frankenberger, T., Smith, L., Langworth, M. and Presnall, C. (2016). The Effects of Social Capital on Resilience Capacity: Evidence from Ethiopia, Kenya, Uganda, Niger and Burkina Faso. Report 2: Strengthening the Evidence Base for Resilience in the Horn of Africa. Nairobi: ILRI and TANGO International.
- Yaron, G. and Wilson, D. (forthcoming). Community Level Resilience Strengthening Interventions – BRACED Myanmar: Cost-Benefit Analyses.

Annexes

Annex 1: Revised resilience measurement index proposed by the MAR team for agricultural households

INDICATOR	SCORE OF 0	THRESHOLD VALUE (SCORE OF 1)	WEIGHTING	TOTAL SCORE AVAILABLE
1 Total productive assets (urban household, livestock and crop-related assets) (ETB)	Increase of less than 15% or decrease	Increase of 15% or more	2	2
2 Savings in a formal savings mechanism (ETB)	Increase of less than 15% or decrease	Increase of 15% or more	2	2
3 Management of your watershed has benefited your household	No management	N/A	2	2
4 Household has insurance related to crops or livestock	No insurance	Any insurance	1	1
5 ETB value of all crops sold	<5,000	5,000+	1	1
6 Access to and use of information have improved crop productivity or minimised shock effects	No access	Has accessed and used	1	1
7 Membership of a VSLA with a social fund (even if without savings – as a proxy for social capital)	Not a member	Member	1	1
Total attributable resilience score				0–10

Source: Adapted from LTS International (2016, Table 54: Resilience index – farming household).

Annex 2: SUR 1M resilience index with sample indicators

DIMENSION (CAPITAL)	EXAMPLE INDICATORS
Spiritual and human	Number of individuals that practise a moderate to high number of these project-promoted techniques (SMART skills, natural resource management, climate-smart agriculture, use of climate information, nutrition).
Social	Individuals' level of engagement in community or local organisations (SILC, producer groups, EWGs, processing/transformation group).
Political	Percentage of people who report that they have adequate information on dates of last municipality session; key activities in the annual commune action plan; total communal budget; and % external v. internal resources.
Financial	Value of households' livestock ownership (livestock ownership in the Sahel is a proxy for savings).
Natural	Number of people without land ownership who have engaged in the process of securing formalised land tenure for productive use (land tenure lease negotiations, full titles or charters that focus on herder/farmer land use) (as individuals or as members of collectives) (disaggregated by country and gender).
Physical	Average household production of millet, sorghum and cowpea.
Systems and structures	Men and women who believe they have adequate access to the following: microfinance including community savings and lending; health facilities; extension services (including but not exclusively agriculture, animal husbandry, rural land agents); mayors' offices; and schools.

Annex 3: BRACED Myanmar Alliance resilience index with constituent indicators

DIMENSION	KPI ID	QUESTION TEXT
D1: Increased resilience system and livelihoods (30%)	KPI1	In the event of future shocks: Does the household feel that they will have access to food?
	KPI2	In the event of future shocks: Would your house remain safe?
	KPI3	In the event of future shocks: Does the household feel that they will have access to basic health care services?
	KPI4	In the event of future shocks: Does the household feel that they will have access to safe drinking water in less than 30 min walk from home?
	KPI5	In the event of future shocks: Does the household feel that they will have access to fuel/electricity?
	KPI6	Does the household have water for irrigation?
	KPI8	In the past three years have you tried growing a completely new variety of crop?
	KPI9	In the past three years have you tried raising a new type of animal?
	D2: Access to communication, access and use of information (20%)	KPI10
KPI11		Has weather forecast or risk information been used to help you decide on key livelihood decisions (harvesting time and method, choosing seeds/corps, livestock, etc.)?
KPI12		Please remember about the last extreme event (flood, cyclone, drought, landslide, heavy rain, etc.) that affected your household – did you know about it in advance?
KPI13		Was early warning information used to help you prepare for the last severe event?
KPI14		In the past 24 months, have you received or owned any devices (mobile/phone, internet, radio, television or similar other devices) to increase access to weather forecast, risk information and early warning information?
KPI15		Has weather forecast and climate information been used for making decisions and plans with groups and for the village?
KPI16		Climate change refers to 'a change in climate that persists for decades or longer'. Do you think that climate change is happening in area/village?

Annex 3 continued

D3: Increased preparedness and coping mechanisms (20%)	KPI17	In general, are you today better able to cope with the SAME last severe shock?
	KPI18	Does your household have a specific plan about what they will do when shocks come?
	KPI19	In the event of future shocks: Does the household feel that they will have access to safe evacuation place?
	KPI20	In past 12 months, have your household members participated in any disaster preparedness drills/simulations exercise?
D4: Improved safety nets (15%)	KPI21	If your household needs it, would you be able to take loan?
	KPI22	Do you or household member save money?
	KPI23	In the last disaster and climate extreme, did you receive support from the group you approached?
	KPI24	Compared to the last severe shock how is the current situation of your household total income status today compared to before the shock?
D5: Improved decision-making and planning (15%)	KPI25	How many groups are you a member of? (female only)
	KPI26	Have you participated in development of the village disaster/climate/resilience plan? (female only)
	KPI27	Have children participated in development of the village disaster/climate/resilience plan?
	KPI30	How confident do you feel about raising concerns to local committees or authorities?

BRACED aims to build the resilience of up to 5 million vulnerable people against climate extremes and disasters. It does so through a three year, UK Government funded programme, which supports over 120 organisations, working in 15 consortiums, across 13 countries in East Africa, the Sahel and Southeast Asia. Uniquely, BRACED also has a Knowledge Manager consortium.

The Knowledge Manager consortium is led by the Overseas Development Institute and includes the Red Cross Red Crescent Climate Centre, the Asian Disaster Preparedness Centre, ENDA Energie, ITAD and Thomson Reuters Foundation.

The views presented in this paper are those of the author(s) and do not necessarily represent the views of BRACED, its partners or donor.

Readers are encouraged to reproduce material from BRACED Knowledge Manager Reports for their own publications, as long as they are not being sold commercially. As copyright holder, the BRACED programme requests due acknowledgement and a copy of the publication. For online use, we ask readers to link to the original resource on the BRACED website.

The BRACED Knowledge Manager generates evidence and learning on resilience and adaptation in partnership with the BRACED projects and the wider resilience community. It gathers robust evidence of what works to strengthen resilience to climate extremes and disasters, and initiates and supports processes to ensure that evidence is put into use in policy and programmes. The Knowledge Manager also fosters partnerships to amplify the impact of new evidence and learning, in order to significantly improve levels of resilience in poor and vulnerable countries and communities around the world.

Published September 2018

- Website: www.braced.org
- 🐦 Twitter: [@bebraced](https://twitter.com/bebraced)
- 📘 Facebook: www.facebook.com/bracedforclimatechange

Cover image: Minzayar Oo

Designed and typeset by Soapbox, www.soapbox.co.uk

