

Improving resilience measurement: Learning to adapt

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Introduction

Strengthening resilience is critical if communities are to respond positively to extreme events, climate change and disasters. An increase in the frequency and severity of disaster events since the turn of the century have caused significant economic and social damage, and demonstrate the considerable challenges communities face around the world. Globally, poorer communities also disproportionately face diverse impacts associated with climate change, which may widen social inequality and alter access to natural resources. Such challenges affect not only the present but have the potential to stretch into the future.

In this context of unpredictability and dynamic change, the concept of resilience has gained prominence in science, policy and practitioner circles, as a positive attribute of people to be strengthened. This is reflected in international frameworks such as the Sustainable Development Goals, rich literature in the fields of disaster risk reduction, conservation, climate change adaptation and community development (Brown, 2016), and by political commitment such as the UK's uplift in its International Climate Finance (ICF) spend from £5.8 billion to £11.6 billion by 2025.

The heightened interest has led to an increase in approaches to measure resilience. In international development settings, this is so implementers and donor agencies can demonstrate results and understand whether resilience-strengthening programmes are achieving their objective to reduce poverty and improve people's wellbeing. There are a plethora of theoretical frameworks and approaches available and in use (Gregorowski et al., 2016; Sharifi, 2016; Serfilippi and Ramnath, 2018), which are compelling but often hard to apply. This has left the evaluation field grappling to provide meaningful evidence on resilience.

There are limits, for example, to key performance indicators (KPIs), such as those used by ICF. While these KPIs provide an important accountability tool, such quantitative indicators take a static view of resilience and seek concrete outcomes as a way to assess people's resilience at the end of a programme – in contexts that are seldom static and concrete.

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Quantitative metrics lack explanatory power around *how* resilience is strengthened, in what ways and, importantly, for whom and why, and do not adequately inform future investment on resilience alone. There are also limits to capacity frameworks that are commonly used in resilience programmes. Much research has identified capacities that confer resilience (Berkes and Ross, 2013). Yet people's resilience is more than the sum of a set of capacities they build up to address extreme events and other climate changes (Faulkner et al., 2018). More focus on the dynamics and process of resilience building is needed to better evidence progress and support more radical responses to change that pushes beyond 'business as usual' development programming.

This paper represents a point of reflection based on Itad's experience of applied approaches across major resilience programmes. The paper shows how we navigated some of the challenges posed by resilience measurement, and found pragmatic ways to capture insight and understanding about resilience. Since Itad began supporting development agencies and practitioners to monitor and evaluate resilience interventions in 2013, we have learnt a great deal about how best to go about it and also what to avoid. Our innovations and learning from the UK former DFID's global flagship resilience programme Building Resilience and Adaptation to Climate Extremes and Disasters (BRACED)¹, and other significant resilience initiatives, such as the Global Resilience Partnership (GRP)² have been invaluable in this regard. While we recognise that there will be no definitive 'right' way to assess resilience, we now have a better understanding of what works (Silva Villanueva et al., 2018).

In this paper, we first define what we mean by resilience and present some of the challenges inherent in assessing the concept. Second, we share our learning on the value and limitations of using capacity frameworks to track progress towards strengthening people's resilience, based on our experience of leading monitoring, evaluation and learning (MEL) for BRACED. Third, we present principles for resilience programming, based on the evidence and a more process-orientated view of resilience, that goes beyond a focus on measuring 'results'. We also demonstrate how our principles have informed other initiatives focused on resilience as well as health, to show their applicability in different contexts and programming areas.

1. Defining resilience: the measurement challenge

Understanding resilience

Resilience has been put at the centre of the development agenda, particularly with regard to climate change and disasters (Brown, 2016). The concept has been widely applied to different sectors and policies including food and water, health, the environment and fragile and conflict-affected settings. As such, resilience has become a concept widely used as a positive attribute of people, institutions or ecosystems that should be enhanced, as it supports beneficial change and development in times of uncertainty. No common definition of resilience exists, and it is understood and interpreted quite differently depending on its framing and use.

In this paper, we focus on the resilience of communities in relation to environmental and climatic change. In this context of unpredictability, we conceive of resilience as a dynamic approach to effectively manage and shape people's response (Magis, 2010). This is achieved through a proactive strategy that helps anticipate disturbance and build capacity

1 BRACED was launched in 2015 and comprised over 120 organisations working in 15 consortia across 13 countries in East Africa, the Sahel and Asia. The aim was to help 5 million people become more resilient to climate extremes and disasters. A 'Knowledge Manager' was appointed to undertake monitoring, evaluation, research, learning and communications work. Itad led M&E for the Knowledge Manager. See www.braced.org for more information.

2 GRP is an independent partnership of public and private organisations that have joined forces to promote a sustainable and prosperous future for all, with a focus on the most vulnerable people and places. Itad was GRP learning partner from 2016. See: <http://grpinsightsreport.info> for more information.

to address different shocks and stresses, which might be fast and sudden (such as a rapid onset cyclone), slow and gradual (such as inter-annual drought), and may be known or unforeseen. The aim is to help minimise negative impacts on people's livelihoods and build flexibility to adapt to changing conditions. The more resilient a household or community is, the greater its potential ability to respond and recover (Adger et al., 2011).

Our understanding of resilience also draws on resilience concepts and ideas from complex adaptive systems – as these offer important aspects of resilience that are often underplayed in typical approaches to resilience and its MEL. The dynamic nature of change, and the trade-offs posed between different actions for resilience building, is not something we can ignore (Brown, 2016). It is inherent to many of the challenges we aim to address in international development, and is pivotal to the success or failure of interventions and our MEL.

There are four key characteristics of the resilience concept that challenge its application (Brown, 2016).

- **Uncertainty** is part of how systems work, and we should expect the unexpected.
- Systems are inherently **dynamic** and there are **multiple links and feedbacks** between processes and changes. These can be both positive and negative, direct or indirect, and can suppress or accelerate change by influencing how change occurs in a given situation.
- There are important temporal, societal and spatial **cross-scale interactions**.
- **Multiple stressors and catalysts** act on systems and interact, sometimes with synergistic results, but not always. This includes hazards or events already known and identified, such as a flood or drought, as well as those more unforeseen and not necessarily experienced before, such as a pandemic.

Such characteristics of complex adaptive systems show that they self-organise to adapt and change their behaviour over time, and are made up of different components which themselves evolve, learn and interact to influence how change plays out within a system. Complex adaptive systems have emergent properties – which means changes or outcomes can be hard to predict as they are non-linear, with behaviour often emerging at the level of the system as a whole. For example, small actions can have large reactions, such as the H1N1 influenza pandemic in Mexico City in 2009. The virus did not affect a large number of people overall compared to the population, yet the economy declined by 75%, with tourism particularly impacted.

Overall, resilience concepts present a different way to understand causality and how change happens in complex environments (Rogers, 2008). In 'simple' situations, there is a clear end result underpinned by a linear and largely predictable process. In 'complicated' situations, there is also a clear end result, but the process is less straightforward, with multiple causal pathways. In complex systems, change is unpredictable, but not random, with the progress of interventions not always assured. Early progress may become less relevant or reversed in unexpected ways if change accelerates in a particular – and perhaps unexpected – direction. Working with resilience, as in other complex operating environments, means that projects, programmes and MEL systems must adapt, flex and be nimble to stay on track and avoid being locked into pathways that may become obsolete in the future.

The challenges of resilience measurement

Since 2012, there has been an increase in efforts to monitor and evaluate development interventions focused on resilience. This is so that the extent to which interventions improve people's resilience can be better understood. Yet assessing people's resilience in practice is challenging, with no agreed approach, method or tool established (Bene et al., 2015). This is largely due to the complexity of resilience as a concept, and the process of resilience building itself, which requires different approaches to assessment in differing contexts.

Resilience measurement is challenging for a variety of reasons. First, conceptually, resilience is difficult to pinpoint in tangible terms. It is an abstract concept that defies direct observation (Ross and Berkes, 2014). Recognising resilience in different contexts and timescales is therefore not straightforward. Second is the challenge of identifying appropriate evaluative methods and tools which adequately capture resilience. We do not know whether established MEL tools and approaches are innovative enough to sufficiently cope with the interaction and increasing unpredictability and scale of different climatic changes, nor focus enough on resilience from a systemic viewpoint of dynamic change. While resilience is observed at a given level – such as a household or community – it is a multilevel construct and needs to be evaluated at other levels such as a district, region, agro-ecological zone or ecosystem (Frankenberger et al., 2004). Third, ‘when’ to measure resilience is tricky (Brown, 2016). Assessing people’s past resilience to an event, or present resilience, may not reflect their resilience in the future. Resilience is a process which evolves – it is not an end point that can be measured at a set point in time (Beymer Farris et al., 2012), as such an approach does not fully capture the emergent nature of how people’s resilience unfolds. Fourth, we might also be measuring people’s potential latent capacity, which comes into play in a given set of circumstances, but may not have been tested in response to recurring hazards and stresses or other more novel events (Brown, 2016). We might not know if what is being measured are actually the ‘right’ things that really matter. Fifth, typical programming approaches to development are often superimposed onto resilience interventions. This adds further challenges to assessing resilience, which is about timing and flexibility, not only programme duration. Standard programmes are typically short and rarely phased or structured around key policy or government timelines which could help activities achieve the most impact (Faulkner and Villanueva, 2019). This challenges implementers who support changes, and evaluators in detecting and measuring those changes, which take a more forward-looking, longer-term and flexible perspective.

2. Measuring resilience

Increased attention on capacity as a way to strengthen people’s resilience has seen capacity frameworks become prominent in development projects and programmes focused on resilience building. They are used to help design interventions as well as monitor and evaluate them by providing a broad framework to track resilience and aggregate results.

The rise of capacity frameworks

Understanding how communities can enhance their resilience and purposefully build capacity to address climate-related changes has received much attention in efforts to monitor and evaluate resilience interventions. Resilience is not regarded as a static characteristic that people either have or do not have (Luthar, 2006). Instead, it is generally understood that people’s resilience is promoted by building up a set of capacities and exercising their agency to respond to change (Magis, 2010). In this way, different capacities combine, interlink and merge with each other to produce a process which confers resilience (Norris et al., 2008). People’s resilience is thus not simply the sum of their individual capacities. Rather it is emergent of them, with resilience promoted in relational and diverse ways in different contexts as capacities are linked and act together (Faulkner et al., 2018). For example, research shows communities facing diverse risks associated with coastal change and extreme weather draw on capacities of leadership, social networks and community cohesion and efficacy, among others, in different combinations at different times. This enables resilience to occur in diverse ways as the links between individual capacities emerge differently (Faulkner et al., 2018).

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There is no general consensus on capacities influencing a community's resilience. Many typically focus on people–place connections, knowledge and leadership (Berkes and Ross, 2013). For example, strategic relationships or networks can provide essential support to help people prepare for and recover from climate extremes (Maclean et al., 2014). Improved knowledge and forms of learning have also been demonstrated (Magis, 2010). This might include learning from a past disaster to enhance a community's social memory (Wilson, 2012), or knowledge around a particular livelihood strategy that is adaptive to drought conditions.

Applying capacity frameworks: our MEL experience from BRACED

An example of a capacity framework that has received increased traction internationally is the 3As (Bahadur et al., 2015), which was developed for BRACED, but there are others. The 3As framework unpicks people's resilience in terms of their adaptive, anticipatory and absorptive capacity (Box 1). As such, people's resilience under BRACED was understood and measured by these three capacities to adapt, anticipate and absorb – which moves beyond narrower notions of coping strategies and disaster risk reduction to forge ongoing, longer-term resilience. All 3As matter; they interrelate but are also distinct.

Box 1: What are the 3As of BRACED?

Adaptive capacity refers to people's ability to positively respond to the dynamic and evolving risk of shocks and stresses, and to multiple climate-related changes, to reduce the likelihood of harmful outcomes. It is activated *before, during and after disturbances*, through actions such as income and livelihood strengthening activities, climate-resilient agriculture, climate-resilient development plans and processes, and mainstreaming risk in sectoral development plans. The BRACED project Livestock Mobility, led by Acting for Life, also supported adaptive capacity by strengthening institutional and local ownership of activities implemented across the Sahel. By solidifying its approach which brought key stakeholders together to negotiate securing land and resources for livestock corridors across West Africa, the project laid the foundation for pastoralists to adapt with the support of government and the private sector.

Anticipatory capacity means people can undertake proactive actions to avoid upheaval from different climate-related events. This capacity is activated *before disturbances*, through actions such as the uptake of climate information, the preparation and use of disaster preparedness plans, and the use of climate-resilient building practices. For example, the key driver of anticipatory capacity under BRACED and its extension phase was the dissemination of climate and weather information, used by projects such as BRES in Burkina Faso, led by Welthungerhilfe. This helped people make decisions that enhanced their livelihood activities and improved household income. This included farmers who made decisions around when to plant crops, what farming practices to use and what seeds are most suitable.

Absorptive capacity is the ability of people to buffer the impacts of climate variability and hazards in the short term to avoid collapse. This capacity is activated *after disturbances*, and is supported by actions such as income diversification, dietary diversity, access to credit, and access to insurance and other safety nets. For example, the BRACED project PROGRESS, led by Mercy Corps, focused on activities which built savings in Kenya, and helped people smooth consumption during periods of drought.

The 3As framework responded to the need for a practice-orientated vision of resilience, given the nebulous nature of the resilience concept. It helped translate the ICF KPIs around resilience measurement (Box 2) into tangible outcomes which could track progress in practice. It also addressed the need for an approach to aggregate results across the BRACED programme. In this way, the 3As has proven to be a useful conceptual framework to understand resilience and some of its different dimensions, with learning from BRACED showing that the 3As framework can help facilitate a more comprehensive design of resilience programmes.

Moving beyond quantitative indicators – Using the 3As

Box 2: ICF Key performance indicators used to measure resilience and transformation

ICF KPI 4: the number of people whose resilience has improved as a result of an intervention

ICF KPI 15: the extent to which an intervention is likely to have transformational impact

Under BRACED, we developed and tested a series of new qualitative frameworks and reporting templates which helped design and track progress towards resilience building across the programme. We used outcome mapping to assess progress against common dimensions of change,³ which were conceptualised in the theory of change as precursors to resilience outcomes. We also developed scorecards to unpack progress towards resilience, as well as transformational change (Box 3), which we designed to complement – and add explanatory detail – to the ICF indicators (Box 2).⁴

Box 3: What is transformational change under BRACED?

Transformation is understood as the fundamental ways in which people's resilience can be further enhanced and sustained, to support a more radical, positive shift in people's resilience longer-term. Viewed in this way, transformation is not another capacity, but rather is an approach to reshape people's ability to adapt, anticipate and absorb shocks and climatic stresses. To demonstrate the potential for transformation, an initiative must achieve three essential results:

- i. Catalytic effect: the ability to leverage change beyond direct project activities.
- ii. Scalable impact: when interventions are used at a greater scale or in integrated combinations with much larger effects than before.
- iii. Sustainable outcomes: processes of resilience building endure after BRACED support ends for projects.

In addition, projects must influence:

- iv. Social and governance relations towards downwards accountability, equality and transparency.

This definition of transformation shows that in BRACED, resilience and transformation are related concepts. Resilience building can be done in ways which are, or are not transformational, if they do not achieve the essential results outlined here (Silva Villanueva, Phillips Itty & Sword-Daniels, 2018).

For examples of transformational change in practice from BRACED, see Silva Villanueva, Phillips Itty & Sword-Daniels (2018) and Faulkner and Villanueva (2019).

The UK government developed 16 ICF KPIs as part of its financial mechanism to support developing countries respond to the challenges and opportunities of climate change. They are a critical tool to support monitoring and evaluation, and the learning and improvement of efforts focused on resilience and adaptation, low carbon development and deforestation. ICF programmes, such as BRACED, are required to report against all KPIs relevant to the programme. Under BRACED, ICF KPI 4, which is a headcount indicator, was trialled for the first time to identify the number of people whose resilience had increased because of the programme.

³ We termed these 'Areas of Change', the four dimensions which represented common aspects of change required to build resilience across BRACED projects, as conceptualised in the BRACED theory of change.

⁴ For further information on how resilience was tracked within BRACED, please see the [BRACED Programme Monitoring and Evaluation Guidance Notes](#). This guidance drew from and built on previous frameworks designed for resilience MEL, which are referenced in this paper.

The ICF KPIs are important accountability tools, yet quantitative indicators – such as ICF KPI 4 – take a static view of people’s resilience at one moment in time, to demonstrate the relative change in people’s resilience as a result of a programme. This approach often lacks the explanatory power necessary to understand how resilience is built, where, or in what ways and for whom, and does not offer fundamental understanding of ‘what works’ in practice. Quantitative data alone also does not give an indication of causation, which fluctuates with time. Therefore, in designing our MEL system for BRACED, we developed an approach to *qualitatively* translate ICF KPI indicators 4 and 15 to practice, to make them explicit and explanatory using the 3As framework.

Our approach helped assess the extent to which projects supported people’s ability to adapt, anticipate and absorb to mostly recurring hazards and extreme weather events, such as floods or drought, from which we analysed progress towards the 3As at programme level. We captured learning from projects around what works best to strengthen each of the 3As; whether there were any trade-offs, where enhancing one capacity results in the erosion of another; and how contextual factors affected project progress against results. We also developed a ‘transformation scorecard’ to unpack ICF KPI 15, which tracked the extent the programme was contributing (or not) to the likelihood of transformation. Projects were assessed against their likelihood to enable transformational change, as well as how project activities related to the 3As. Projects also reported how transformation was best promoted in each context, and what did not work as expected. Both our approaches elicited narratives about change and how projects supported people’s resilience.

Lessons and limitations on applying capacity frameworks

In developing and testing our frameworks and reporting templates under BRACED, we moved beyond compelling theoretical arguments underpinning the benefit of using capacity frameworks to assess resilience, to demonstrate their added value – and inherent limitations – in practice. Capacity frameworks are a practical tool for planning interventions. As such, the 3As framework has proven to be useful for programme design and aggregating results for resilience initiatives like BRACED that are multi-dimensional and primarily engage with people. Yet capacity frameworks also need to be applied with careful consideration, as there are limitations for understanding resilience building in practice.

The ICF KPI 4 methodological guidance note has been updated to include the 3As as an example of a capacity framework to use for resilience programmes working with people and communities.⁵ The guidance is broad, and states that a project or programme promotes resilience if progress towards at least two of the three capacities in the 3As framework is enabled. However, based on our experience and the evidence from BRACED, this approach does not go far enough. Our findings suggest the following:

- **Building adaptive capacity is essential to strengthening resilience.** Supporting people’s ability to anticipate and absorb hazards and disturbance often meant BRACED projects focused on shorter-term, rather than longer-term needs. This is understandable and necessary to an extent, but it is not sufficient. A lack of attention to people’s ability to adapt in the long term neglects this essential attribute of resilience, and questions the extent resilience is really being promoted (Faulkner and Silva Villanueva, 2019). We identified that while adaptive capacity may take longer to strengthen, it must be a focus and a priority.

Lack of attention to people’s ability to adapt in the long term neglects this essential attribute of resilience, and questions the extent resilience is really being promoted. While adaptive capacity may take longer to strengthen, it must be a focus and a priority.

⁵ ICF KPI4 guidance, available here: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/835527/KPI-4-number-people-resilience-improved1.pdf

- **Measuring capacities alone is problematic and implementers and evaluators must not get stuck on resilience capacities only.** In BRACED, the 3As helped projects categorise their activities under each capacity as a way to inform project design. Yet we found that using capacity frameworks on their own do not account for the ways in which the foundations for change are established and embedded in different contexts (or not). **Our experience demonstrates that resilience measurement must also be complemented by an understanding of how programmes themselves strengthen resilience gains, and help promote people’s capacity beyond the individual activities they implement.** Resilience is not just an assessment of ‘capacity built’, but is also about the process and the ways in which it is done. It is not only *what* you do, but *how* you do it that matters (Silva Villanueva, Phillips Itty and Sword-Daniels, 2018).

We found that an explicit focus on capacity frameworks can lead to a tick-box exercise against resilience ‘criteria’, which fails to deliver coherent resilience ‘programming’. Although a difficult message to receive, there is no universal mechanism or silver bullet for enabling people’s resilience. Resilience needs to be understood – and tracked – as a dynamic process, within the context of the wider system within which programmes operate, and its relationship to transformation. This means it is essential to not only strengthen people’s capacity, but to identify and assess the processes that can offer evidence and learning around ‘how’ programmes themselves can support resilience building. Through our MEL work on BRACED, we identified some of these processes, which we present next.

3. Improving the way we understand and track resilience: a focus on processes

We identified four common processes – and a qualitative approach to track them – that we suggest are key to resilience-strengthening programmes⁶ (Figure 1). These processes are both characteristics of resilience programmes, as well as areas where MEL should focus on gathering evidence, building capacity, supporting implementation and capturing emergent change. The four processes are:

1. **‘Layering and Linking’** – this is about **establishing a logical sequencing of packages of interventions, and coherent combinations of activities that build on or are linked to one another, delivered through appropriate partners and facilitated through mentoring and ongoing support for communities to link knowledge to action.** In short, this process is about quality rather than quantity. It is not one activity or strategy that determines success or failure, but rather the logic, sequencing and timing of implementation that matters for resilience. Sequential, multi-stage and parallel actions are needed given the dynamic way in which change towards resilience occurs. Evidence from the BRACED extension phase showed that the extra time allowed projects to further refine and tailor this process, and fewer activities undertaken in some cases gave more focus to those that better linked towards impact.

The entry point for this process can be different, depending on the aim and context of a project. But whatever the starting point, it is from there that projects then interlink and layer other activities together. For example, in the first year of BRACED, an entry point for a number of projects was community planning; to engage communities and strengthen knowledge and understanding about climate and disaster risk. In Year 2, progress was then made by layering activities linked to community plans, such as establishing early warning systems and access to climate information and forecasting, and improving access to effective natural resource management practices. Box 4 presents an illustration from practice.

⁶ Please see also <http://www.braced.org/resources/i/routes-to-resilience-insights-y2>

Box 4: Layering resilience-building activities in Nepal

The Anukulan project in Nepal, led by iDE, used community planning for resilience and disaster risk reduction as its starting point in BRACED. Community-developed Local Adaptation Plans of Action (LAPAs) were then implemented in Year 2, through formal and informal partnerships with village development committees. Added to this, the project linked the LAPAs with forums comprising private sector service providers, community-based and civil society organisations, and political parties to improve relationships between these stakeholders, to leverage resources for LAPA implementation and maintain transparency and accountability. Anukulan also secured support from other initiatives, such as the Poverty Alleviation Fund, led by the World Bank, which enabled the project to distribute additional assets identified in LAPAs beyond intervention areas.

2. **'Including'** demonstrates **the need to go beyond participation of marginalised groups. Multi-faceted and multi-scale approaches need to be designed from the start of implementation to build the awareness and understanding of multiple actors, as well as the skills and resources to enable change towards shifting deeply embedded discriminatory norms.** The core message is that enabling resilience requires equality if people's ability to respond to shocks and stresses is not to be undermined. To achieve this, projects must go beyond the participation of the most vulnerable towards addressing the root causes of their exclusion. Structural changes in society are needed to shift existing balances of power that lead to inequality.

We learnt from BRACED that this means that projects are to go beyond resilience results (which are typically disaggregated by marginalised group), to include equality as a defined objective, with specific pathways towards it systematically integrated into project design. Most projects under BRACED 'displayed' participation and social inclusion through capacity building and activities, particularly on improved or diverse income, to particular groups of people, mostly women. Yet this approach does not identify gender and other forms of equality as a key goal for resilience. A clear vision of how equality contributes to resilience must be articulated (Box 5).

Box 5: Placing equality at the centre of resilience-building activities across the Sahel

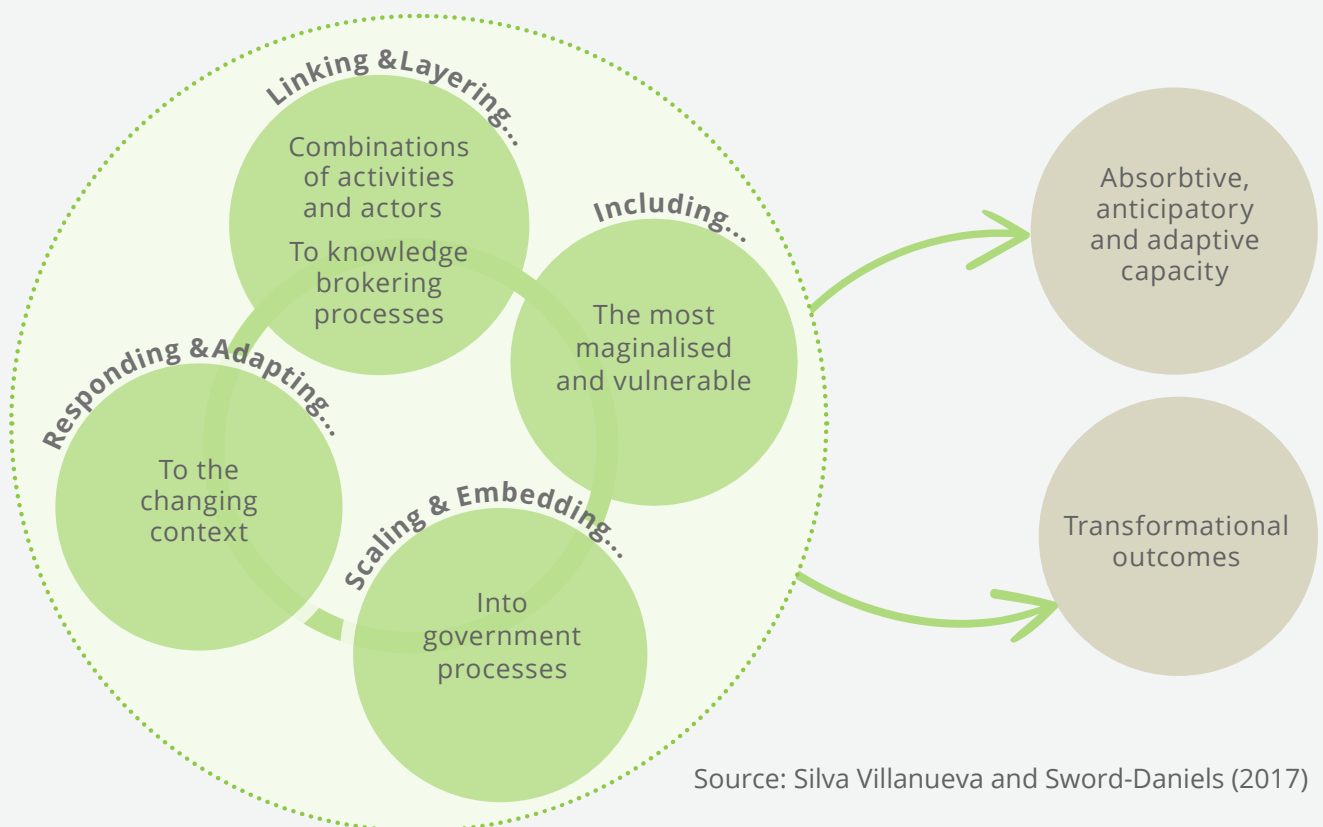
The BRACED project, Livestock Mobility, puts the marginalisation of pastoralists at the centre of its understanding of resilience. The model used to address the inequality of pastoralists in the Sahel can be conceived as follows:

- i. **Address misinformation and negative preconceptions** of [the marginalised group]
- ii. **Articulate the positive impacts** of [the marginalised group] being enabled to thrive, both benefits to them and wider benefits to society (such as avoidance of negative consequences of pastoralists marginalisation and the new opportunities provided to others by them thriving)
- iii. **Include** [the marginalised group] in decision making in ways that enable their needs to be considered alongside the needs of other groups and communities, and not easily dismissed
- iv. **Demonstrate the positive impacts** of better resource access, better services, and longer-term investment and management by and for [the marginalised group]
- v. **Garner wider stakeholder support** for change at scale.

There is now an opportunity for Acting for Life, the consortium lead, to see if its experience in addressing external inequality of pastoralists in wider society can help address inequality internal to pastoralist communities in the future.

3. **'Responding and Adapting'** highlights the need to flexibly adapt to emergent change as contexts evolve during the lifetime of projects. There is also a need to critically reflect and challenge project assumptions during the course of implementation based on growing understandings of change processes in each context. The crux of this process is that for resilience projects and programmes to be effective, responding and adapting to context is not optional – it is imperative if they are to stay relevant in resilience contexts of dynamic and rapid change. Mid-term reviews often underpinned key moments for identifying change for BRACED projects and provided an important opportunity for shifting direction based on mid-length lessons learnt. This was valuable, but not sufficient in itself. Adapting by default and making reactive, tactical tweaks to strategic design to improve performance only gets projects so far. They need to consciously build adaptive competences and processes, and structure themselves from the outset to be flexible in ways that allow projects to be truly dynamic and meet emerging challenges. This requires support from donors with adaptive programming, given conventional projects designs and contracts limit their scope.
4. **'Scaling and Embedding'** highlights the need to embed project approaches within local policy development and planning processes, as well as promote multi-stakeholder engagement and build strong relationships with communities. Ongoing engagement acts to support local leadership and ownership, and to promote uptake beyond the lifetime of a project. To strengthen people's resilience, and help influence positive transformational change, change needs to happen at all levels from communities up to government and policymakers. This requires projects to link implementation efforts across scales, by ensuring efforts are integrated into ongoing government processes for example. Bottom-up approaches at project level can foster change, but scope is limited without national and regional engagement and change from the top-down, which in turn, can promote the sustainability of interventions beyond the lifetime of projects (Box 6).

Figure 1: Four key processes underpinning resilience programming



Box 6: Building multi-stakeholder relationships to scale and embed resilience-building initiatives

For BRACED project CMESA-E in Ethiopia, led by Christian Aid, scaling and embedding meant the use of participatory platforms and a multi-stakeholder engagement process, which resulted in a National Framework for Climate Services for the whole country to move forward on. Likewise, DCF, led by the Near East Foundation, strengthened financial access and the decision-making ability of local government to improve communities' resilience at scale to climate impacts in Mali and Senegal. In Mali, the project developed a strong relationship with the financial arm of the Ministry of Decentralisation. This was key to channelling funds to communities, who then decided how to spend the funding themselves.

The four processes are not mutually exclusive. They interlink, merge and reinforce each other, and are relevant to diverse contexts⁷ and multiple thematic programming areas, such as livelihood promotion, social protection and agricultural production. The four processes are therefore useful, as they present principles to be applied to resilience programming in practice that pushes beyond 'business as usual' development programming. The four processes provide direction based on evidence about how to be effective, and can be used to integrate resilience thinking into new development programmes working on a range of issues – not only climate change, but also health systems strengthening or market systems for example. In this way, the four processes offer opportunities to adapt to different contexts and changing understandings, as they must be interpreted and applied contextually to ensure relevance.

These processes are pivotal to our understanding of how to better grasp and measure resilience. They offer a process-orientated view of resilience MEL, which highlights the often 'missing middle' of resilience measurement. The four processes point towards a different approach to MEL, moving away from a predominant focus on capacity and outcomes, towards also tracking and monitoring processes that underpin resilience programming and support laying the foundations of change upon which projects can build.

Yet what we suggest is not only a simple shift in focus to tracking processes as they evolve. We also recommend that a more fundamental shift in the positionality of MEL is needed, away from external results measurement, to a more utilisation-focused approach, with evaluators to become part of the process to better support ongoing adjustments to promote resilience. This is not business as usual. This requires MEL approaches to more actively support implementation through evidence gathering and capacity building and capturing emergent changes and unexpected outcomes. In this way, MEL functions within programmes are to be more hands-on, more embedded, more flexible, and more actively supporting the decision-making process of implementation, with MEL evidence to be used throughout an intervention to inform learning and action.

Beyond BRACED, the four processes have been successfully applied to other significant resilience initiatives, such as the Global Resilience Partnership (GRP) (Box 7), as well as outside of the climate resilience field, demonstrating their use in other areas. In collaboration with Marie Stopes International, Itad is providing FCDO's UK Aid Connect⁸ with evidence and learning from innovative projects in humanitarian and climate change contexts. The aim is to improve the availability, quality and continuum of care surrounding comprehensive sexual and reproductive health services. In this way, the four processes are being used to design innovations and adapt projects over the course of the programme, to encourage wider uptake after it ends.

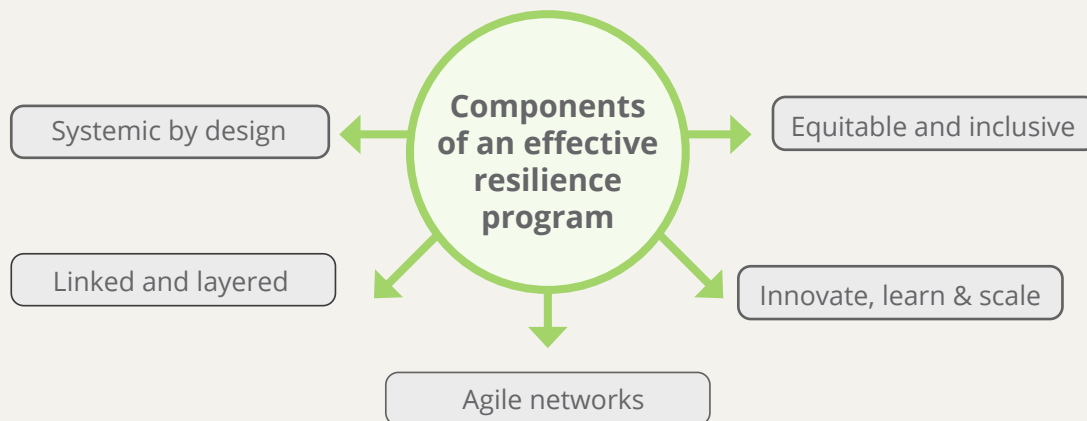
⁷ BRACED operated in contexts across South and South-East Asia, the Sahel in Africa and its neighbouring countries.

⁸ The Foreign, Commonwealth and Development Office (FCDO), was launched on 2 September 2020, merging the Department for International Development (DFID) and the Foreign and Commonwealth Office (FCO)

Box 7: Amplifying learning from BRACED MEL to other resilience interventions

GRP identified five critical components resilience programmes need to be effective based on evidence from across the partnership (Figure 2), some of which draw on the four processes we identified in BRACED. This includes the 'linked and layered' and 'equitable and inclusive' components, highlighting the value of these principles in the design and MEL of other global resilience initiatives.

Figure 2: Features of an effective resilience programme



Source: Wilson et al., 2019

Under GRP, an example of a 'linked and layered' approach in practice is shown via the Danish Refugee Council's Community Flood Resilience Project (COFREP) in Kakuma, Kenya. In this instance, the coordinated implementation of complementary and interlinked interventions included seed multiplication, an early warning system, water control and harvesting infrastructures, farmer training on dryland farming techniques, afforestation, and training on flood risk mitigation. Together, these approaches contributed to improving the resilience of targeted communities to water-related stresses and extreme events.

Conclusion

Resilience is shown to matter, as the more resilient households, communities and societies are, the greater their ability to respond and recover from the unpredictable effects of climate change and other extreme events. However, the nebulous nature of resilience makes it hard to gather evidence to know what's working (or not) and to understand how to strengthen it. Resilience is not a static, stand-alone change, but something that interacts with – and is influenced by – the context and the wider system.

In reflecting on our learning and ways to address some of the complexity around resilience in practice, we show that assessing people's capacity to adapt, anticipate and absorb is a useful entry point to understand and measure resilience. Using capacity frameworks can help track progress and aggregate results. However, while more practical, this is not sufficient to capture the strengthening of resilience. Indeed, there is a risk of viewing capacities as something static, with resilience 'achieved' once these capacities have been promoted.

Capacity frameworks, such as the 3As framework first used under BRACED, must be complemented with greater focus on *how* interventions themselves enable resilience gains, beyond the individual activities they implement. This central focus on 'how' is key for measurement and learning in the

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resilience field. While there is no universal (or perfect) way to do this, a focus on processes offers a valuable way forward. We identify four such processes – or principles – that can be tracked and assessed to offer evidence and learning about resilience in a range of sectors and settings.

In focusing on processes in this way, we recognise it also challenges the role of the evaluator; and indeed how they can become part of the process to better support ongoing adjustments to promote resilience. This requires challenging the way we conceive of independence and to move from external observer to embedded and reflexive participant in supporting change – an idea we are exploring in more depth.

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