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A how-to guide for subjective evaluations of resilience

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Subjective evaluations of resilience are growing in popularity (Béné et al., 2016; Jones, 2019). As evaluators grapple with the many conceptual and technical challenges faced in measuring resilience, subjective approaches offer a number of unique advantages.

For a start, subjective evaluations capture bottom-up insights from those who matter most: people experiencing shocks and stresses on the ground. Second, they help reduce the burden of choosing hundreds of proxy indicators. Instead, people are asked to consider the factors that contribute to their own resilience and self-evaluate accordingly. Third, subjective evaluations are often much shorter than traditional objective approaches. Not only does this mean that surveys are cheaper and quicker to administer, but also it opens up new possibilities for resilience data collection – including the option of administering them via mobile phone surveys.

While the advantages of subjective evaluations are increasingly clear, they are not without their own limitations. Difficulties in comparing across groups, personality traits and cognitive biases have to be considered. The good news is that many of these issues can be addressed using careful survey design.

In this how-to guide, we outline what subjective evaluations of resilience are and how self-evaluations of resilience can be collected in a robust way. We go through important steps needed in delivering a subjective survey, using the Subjectively Evaluated Resilience Score (SERS) approach as an illustrative guide (Jones, 2018; Jones and D'Errico, 2018). Most importantly, we reveal a number of simple tips and tricks to ensure successful resilience evaluation based on lessons learned from the Building Resilience and Adaptation and Climate to Extremes and Disasters (BRACED) programme, as well as a number of other recent case studies.

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1. HOW IS RESILIENCE MEASURED?

As resilience continues its rise to the top of the global political agenda, development actors are increasingly keen to find out whether their investments in resilience-building are having an impact on the ground. Traditionally, resilience has been measured using objective approaches. Here, 'objective' approaches are those that rely primarily on external judgements and observations (i.e. not from the perspective of those being directly affected or measured).

In the context of resilience measurement objectivity and subjectivity can relate to two important aspects: i) **how resilience is characterised** (i.e. who defines what resilience is); and ii) **how resilience is measured** (i.e. whose perspective resilience is measured from).

Most resilience measurement tools depend on objective characterisations of resilience. The definition of resilience (and the characteristics that make up a resilient system) will usually be guided by an expert-led process. Typically, a group of experts – often technical staff in a non-governmental organisation (NGO)/research institute – will be asked to come up with a resilience framework, or an existing framework sought from the wider academic literature. While some form of 'outreach' or community engagement is occasionally used to validate the chosen framework, rarely do they meaningfully reflect the thoughts and perspectives of people being evaluated.

Once a definition and characterisation of resilience has been chosen, it then needs to be evaluated. To do this, objective measurement toolkits rely on proxy indicators: long lists of indicators that are thought to be linked with the capacities that may support resilience. These can involve anything from a list of household assets to measuring the income and education levels of household members. These indicators are then compiled to form a single resilience score.

2. WHAT ARE SUBJECTIVE APPROACHES TO RESILIENCE MEASUREMENT?

Subjective approaches to resilience measurement take an entirely different approach. They challenge the assumption that outside experts know more about the resilience of others. Instead, they start from the premise that people have a valid understanding of their own ability to deal with current and future risks. They therefore seek to factor them into the measurement process directly.

To capture these insights, subjective approaches rely heavily on people's own perceptions, judgements and preferences (Maxwell et al., 2015). The approach builds on recent advances made in related fields such as subjective wellbeing, risk perception and psychological resilience (Connor and Davidson, 2003; Diener, 2006; Mills et al., 2016).

As outlined above, one way that a measurement tool can be considered subjective is on the basis of how resilience is characterised. In this case, those being evaluated would be asked to self-assess what resilience means to them. This could be done either at the individual level (with each individual deciding themselves) or collectively (with groups or communities deciding together).

Measurement tools can also be subjective based on how they evaluate resilience (the main focus of this guide). Here, a set resilience framework (whether defined by the individual or by an external expert) would be measured by asking the individual in question to self-rate. Often, this is done by asking people to agree or disagree with a range of statements, such as '*My household can bounce back from any challenge that life throws at it*' (Jones, 2018) or '*In times of change I am good at adapting and facing up to challenges*' (Lockwood et al., 2015).

While the composition of the questions will vary according to the resilience framework, the same process of compiling the answers and creating a single index of resilience remains. For examples of different subjective measures see Marshall and Marshall (2007), Lockwood et al. (2015), Maxwell et al. (2015), Béné et al. (2016), Jones and D'Errico (2018) and Jones et al. (2018b).

It is important to note that any one approach is rarely entirely subjective or objective. Often, it will combine elements of both. It is also possible for a measurement toolkit to rely on an objective characterisation of resilience (i.e. a framework guided by experts or the literature) and a subjective evaluation (i.e. people self-evaluating their own resilience), or vice versa. Combined approaches where people's perceptions are factored in alongside a list of objective indicators offer a range of advantages (see Béné et al., 2018; Claire et al., 2018) – though few such examples exist to date. For more on the overlaps between the two, and how different types of measurement tools can be classified, see Jones (2019).

3. WHAT SUBJECTIVE EVALUATIONS ARE (AND ARE NOT) USEFUL FOR

The strength of subjective evaluations is that they capture bottom-up insights on resilience. They allow for factoring people's knowledge of their own resilience, and work best when applied in contexts where people have a strong understanding of localised risk. For example, many livelihoods in the Global South are closely tied to the weather – such as those of subsistence farmers, fishers or pastoralists. Here, subjective evaluations would allow for the easy capturing and quantification of people's insights on the local factors that influence their resilience.

Another powerful use of subjective assessments is as a feedback and accountability mechanism. With considerable sums of money being spent on resilience-building interventions, it is important that those receiving support have a say in whether or not they are working effectively.

Clearly, an individual's perceptions are personal and can be influenced by a wide range of factors. These could include their personality and their mood as well as a range of cues and the local environment around them – factors that will influence any subjective evaluation. However, careful survey design can help reduce the influence of many of these effects (we will come to some tips and tricks later).

It is also important to consider how subjective evidence is going to be used. Subjective evaluations are especially useful when comparing the same individuals over time (e.g. panel data) – where the same questions can be asked of the same people. They can also be used to compare levels of resilience between different groups. With that in mind, it is important to recognise the strengths and weakness of subjective approaches in supporting cross-cultural comparisons.

On the one hand, cross-cultural comparisons may be affected by differences in outlook and levels of optimism. On the other, allowing people to self-define or self-evaluate their own resilience means that it is easier to account for contextual factors. For example, objective indicators that reflect the resilience of a fisher in coastal Kenya are unlikely to be the same as those of a pastoralist in the drylands of Turkana, making any comparisons futile. Yet, as long as the fisher and the pastoralist have similar understandings of resilience, a subjective evaluation would allow for each to factor in localised aspects important to them and permit a meaningful comparison of the two.

Reassuringly, insights from the related field of subjective wellbeing demonstrate that perception-based measures have a high degree of validity, can allow for interpersonal comparability and offer ways of minimising measurement error (Stutzer and Frey, 2010). However, the use of subjective methods in the field of resilience is in its relative infancy and more needs to be done to understand the strengths and weaknesses of this new tool.

4. HOW TO RUN THE SUBJECTIVELY EVALUATED RESILIENCE SCORE

There are a number of different ways to run a subjective evaluation of resilience. For the purposes of this guide we focus on one tool: BRACED's Subjectively Evaluated Resilience Score (SERS). SERS is designed to be both simple to use and methodologically robust. Most importantly, it is flexible, allowing evaluators to tailor it to their own needs and mould it to suit a range of different resilience frameworks (see Jones, 2018; Jones and D'Errico, 2018; Jones et al., 2018a).

SERS is a self-assessed questionnaire module that focuses on household resilience. It works by asking individuals to answer a range of questions about their household's resilience. Each question targets a specific resilience-related capacity, with answers standardised using a Likert scale. Questions are designed to be cognitively simple, helping ensure that respondents clearly understand each question and can provide a quick and reasoned self-assessment.

Running SERS is straightforward. It is a small survey module that can be placed in any household survey and typically takes roughly three to five minutes to administer. Before starting the module, a survey enumerator reads out a short statement (see the preamble in Table 1). Nine short questions are then asked, with respondents rating the extent to which they agree or disagree with each (ranging from Strongly agree to Strongly disagree). Where possible, the order of questions should be randomised. Enumerators may also wish to reverse code a small number of questions, though care should be taken in doing so (we discuss the pros and cons of this below).

Once answers to each of the questions have been gathered, they are numerically converted (Strongly disagree = 1, Strongly agree = 5). An individual's answers are then tallied up and used to compute an overall resilience score for each household.

There are a number of ways to compute the final score (we discuss options in detail below). However, the simplest (and perhaps most relevant) option is to generate an equally weighted average of each of the resilience capacity questions. Lastly, the resilience score is standardised using a min-max normalisation, transforming the results in a score that ranges from 0 (not at all resilient) to 1 (fully resilient).

Table 1: List of nine resilience-related capacity questions used in the SERS model of overall resilience

RESILIENCE-RELATED CAPACITY	QUESTION
Preamble: 'I am going to read out a series of statements. Please tell me the extent to which you agree or disagree with them.' [Read out each statement and ask] 'Would you say that you strongly agree, agree, disagree, strongly disagree or neither agree nor disagree that:'	
Absorptive capacity	Your household can bounce back from any challenge that life throws at it
Transformative capacity	During times of hardship, your household can change its primary income or source of livelihood if needed
Adaptive capacity	If threats to your household became more frequent and intense, you would still find a way to get by
Financial capital	During times of hardship, your household can access the financial support you need
Social capital	Your household can rely on the support of family and friends when you need help
Political capital	Your household can rely on the support of politicians and government when you need help
Learning	Your household has learned important lessons from past hardships that will help you better prepare for future threats
Anticipatory capacity	Your household is fully prepared for any future natural disasters that may occur in your area
Early warning	Your household receives useful information warning you about future risks in advance

5. TIPS FOR SUCCESSFUL SUBJECTIVE EVALUATIONS

While the process of running SERS is simple, there are a number of methodological decisions and choices that need to be considered to ensure successful evaluation. Below we go through 10 key decision points based on insights from running the SERS module in a collection of African and Asian contexts.

Tip 1: Think carefully about how resilience is defined (and who defines it)

There are hundreds of different resilience frameworks on offer (Schipper and Langston, 2015; Bahadur and Pichon, 2016). Fortunately, the SERS approach is designed to fit within (or be adapted to) most household-level resilience frameworks. While it is advised that all nine questions in the SERS framework be used, the approach can be chopped and changed depending on how the evaluator chooses to define and characterise resilience.

For example, the BRACED programme uses the 3As framework (Bahadur et al., 2015). This breaks resilience down into three core capacities: i) anticipatory capacity – the ability of a household to anticipate and proactively reduce the impact of shocks and stresses; ii) absorptive capacity – the ability of a household to absorb and cope with the impacts; and iii) adaptive capacit – the ability to adjust to long-term changes and learn from prior events. In the case of BRACED assessments, a shorter variant of the SERS approach is therefore used by simply asking the three relevant capacity questions (known as the SERS-3A variant). Again, an average of the responses for each capacity is then calculated.

Another common resilience framework uses a similar mix of three capacities, made up of coping (or absorptive), adaptive and transformative capacities (Pelling, 2010). Again, the SERS approach can be easily tailored by asking the three questions that relate to each respective capacity (in this case the SERS-AAT variant). Indeed, any variant can be used as long as the chosen capacities relate to a framework that is well grounded in theory or practice.

In cases where a chosen resilience framework includes capacities not featured in the nine SERS questions, it is also possible to extend the list to include additional ones. However, considerable care should be taken to ensure that the tone, style and phrasing of the question(s) match those in the existing bank of resilience capacity questions.

The most appropriate way of choosing the right mix of resilience capacities is to ask those being evaluated themselves. Community-level (or even individual-level) consultations can be used to identify the factors most closely associated with resilience at the local level. This can then feed into the selection of SERS questions – meaning that the approach is subjective both in characterising resilience and in evaluating it.

Most importantly, evidence from applying SERS in Kenya, Myanmar and Uganda shows that, regardless of the combination of SERS capacity questions used,

the outcomes and results tend to be similar (see Jones and D'Errico, 2018; Jones et al., 2018b).

Tip 2: Focus on overall resilience, not hazard-specific resilience

An important question facing evaluators is, resilience to what? To consider available options, we can turn to an example. Let us consider a resilience-building project that wants to reduce the risk of drought impact on rural farmers in Uganda. In this case, the evaluator is specifically interested in measuring drought resilience (and whether the project has had an impact on this). The evaluator may therefore want to ensure that each of the SERS questions targets elements of drought specifically. For example, the question on absorptive capacity could easily be rephrased as '*If a flood occurred in the near future, how likely is it that your household would be fully prepared in advance?*'

In this example, respondents would internalise all aspects that help their household prepare for drought and self-rate accordingly. While this is certainly a valid approach, isolating resilience to a simple hazard is often difficult (if not impossible). A farmer's ability to deal with drought will be affected by a whole host of different factors, including other shocks and stress (like food price spikes or pest outbreaks).

In fact, the characteristics that support resilience to one hazard are likely to overlap quite considerably with others (e.g. households unable to deal droughts are also unlikely to be able to deal with cyclones or heatwaves). If you want to include each of these into a hazard-specific resilience questionnaire, then the SERS module would quickly balloon in size – each hazard would require nine capacity-related questions to be asked, risking survey fatigue and acquiescence bias (a tendency to simply 'agree' with all questions).

Rather than focusing on a single (or multiple) hazards, we recommend that SERS questions be framed in relation to resilience overall (i.e. resilience to any future shock or stress). There are a few important advantages to this approach. The first is that it helps prevent priming. Priming is when a person is exposed to a stimulus that subconsciously affects how they answer the questions that follow. In this case, simply referring to flooding in the question is likely to change responses. It also likely to encourage social desirability bias, where people respond in accordance with how they would like to be viewed (as the SERS questions are less obviously tied to disaster risk reduction) – or, in the case of project evaluations, what they would like to get out of the future project activities.

Another issue with using single-hazard reference points is that individuals are likely to be primed in relating to past events. For example, if a devastating flood hit the area two years ago, then questions framed around flood resilience will encourage respondents to relate to their experience in recovering from the prior flood (rather than their ability to deal with current or future floods). It is for this reason that we do not recommend that prior events be used in the subjective questions on resilience. While reference to hypothetical future floods (as used above) may help alleviate this risk, it is unlikely to remove bias altogether. Focusing on multi-hazard risk, and preferably removing any reference to a hazard altogether (as is the case with the SERS questions) can help significantly reduce the risk of respondents anchoring their answers on past events.

Tip 3: Don't use the word resilience

One approach to subjective evaluation of resilience would be to use a single resilience-focused question such as '*All things considered, how resilient is your household?*' This would mimic the approach used by most life satisfaction questions. Here, respondents would be encouraged to think about what resilience means to them, and self-rate according to their own definition.

While the approach is certainly valid, an unfortunate drawback is that resilience means many different things to many different people – perhaps even more so than for life satisfaction or happiness. This is not just an issue of personal or cultural differences; no set definition can be found across the vast body of academic literature on resilience. Referring to resilience in a survey module would therefore present a number of challenges, as it is difficult to know whether people would be relating to the same thing.

In order to prevent misinterpretation, and allow for better cross-cultural comparisons, we suggest that any reference to resilience be removed from any subjective questions. Instead, less ambiguous terms can be used that refer to aspects closely related to resilience. Phrases and terms such as 'bouncing back', 'getting by', 'fully prepare for' and others are clearer to understand and translate much more readily across languages and cultures (hence their adoption in the SERS module). In addition, by not referring to resilience specifically in the questions, respondents are less likely to be primed in their answers (or report in a socially desirable manner).

Tip 4: Use fancy weighting only if necessary

As with many resilience frameworks, the SERS tool describes resilience as made up of a range of capacities. While this fact is well documented in the academic literature, there is much less attention paid to which capacities are most important in supporting a household's resilience. Do all capacities play an equal role, or are there some that matter more? If so, it is highly likely that the relative importance of capacities will differ not only from household to household but also from community to community.

With that in mind, care needs to be taken when deciding how to weight answers to the SERS module. Given that the final resilience score is calculated by aggregating all SERS questions, the assignment of different weighting procedures may have considerable impacts on resilience outcomes.

A number of options exist. The most straightforward is to assign an equal weight to each resilience-related capacity. In the case of the SERS-3A variant, this would assume that absorptive capacity is just as important in supporting household resilience as anticipatory and adaptive capacities.

However, it is equally valid to try and assign separate weights for each capacity. For example, if an evaluator knows a community is undergoing rapid changes to its local environment (perhaps flooding has accelerated in recent decades, or urbanisation has increased heatwave incidence), then a choice could be made to weight adaptive capacity as twice as important as absorptive and anticipatory capacities. Any weighting

would have to rely on strong theoretical foundations – with justifications made transparent from the start.

Another valid way to weight SERS results would be to consult with local communities. Consultative exercises could be used to ask locals to rank the importance of various capacities, or to weight those that matter most to them. Again, transparency in how weights are identified and used would be crucial here.

Statistical analysis can also be used to decide weights. Procedures such as Factor Analysis or Principal Component Analysis (PCA) not only are able to tell you whether certain questions contribute little to overall resilience scores (and can therefore be dropped) but also allow you to assign statistical weights for each capacity.

In practice, experiences from Kenya, Myanmar and Uganda suggest that, irrespective of the type of weighting procedure, resilience outcomes tend to be very similar (Jones, 2018). If this is the case, then our recommendation would be to go with the simplest and most transparent approach: an equally weighted average.

Tip 5: Tailor response items to local contexts

The wording and number of response items is crucial to the SERS module: the greater the number of available response items, the higher the variance of possible resilience scores. Ideally, an evaluator should seek to use response items that have the highest number of options. A strong recommendation would therefore be to use a numeric rating scale ranging from 1 to 10. Instead of the five option responses items presented in Table 1, an evaluator could ask the following: '*I am going to read out a series of statements. On a scale of 1 to 10, please tell me the extent to which you agree or disagree with them…*' Doing so means that it is much easier to separate and rank individual responses, given that twice as many permutations for resilience scores now exist.

Another useful tip is to use a visual cue. For example, a line from 1 to 10 can be drawn on a piece of paper and respondents can be asked to mark on the line where they would rate themselves in accordance with the SERS question. Note that this option is available only for face-to-face surveys.

While the 1–10 option works well in environments where people are used to carrying out surveys, evaluators are often interested in collecting information from remote communities. Numeric rating scales do not work well in places where there may be high levels of numeric illiteracy or where few surveys have been conducted. In such cases, it is better to opt for a descriptive rating scale – where each point along the scale is written out or spoken (as in Table 1). Care in understanding the local context, as well as extensive use of pilot surveys, is usually needed to identify the most appropriate rating scales to use.

Tip 6: Where possible, collect panel data

Subjective evaluations of any sort are affected by a range of personal and cultural traits. Two communities may think about resilience in very different way, making it difficult to know whether self-assessments are comparable.

Box 1: Example of an anchoring vignette used to compare SERS across cultures

When a severe drought affected Raku's community, most of the livestock in Raku's household were destroyed, but they could still rely on food and income from the two cattle that survived. Some members of Raku's household found work in a nearby village, but they still needed to borrow money from family and friends. 6 months after the drought, Raku's household is able to do most of the things that they could before the disaster.

To what extent would you agree or disagree with the following statement:

- Raku's household can bounce back from any challenge that life throws at them;
- Raku's household is fully prepared for any future threats and challenges that come their way;
- If threats to Raku's household were to become more frequent and intense, they would still find a way to get by.

Fortunately, experiences from related fields such as subjective wellbeing and life satisfaction suggest that, while cultural differences present conceptual and methodological challenges, there is sufficient evidence of validity to make cross-cultural comparisons meaningful (Jorm and Ryan, 2014).

One way to reduce the impact of personality or culture on subjective evaluations of resilience is to collect panel data. By repeatedly surveying the same individual over time, it is possible to remove the influence of time-invariant traits (i.e. factors that do not change over time). In this way, personality and culture (traits that do not change quickly) can be more readily accounted for. Other time-variant factors such as mood may still have an impact on subjective scores, though the collection of large random samples can go a long way in limiting their impact.

Another option to support cross-cultural comparability is to use anchoring vignettes (King and Wand, 2007). Anchoring vignettes involve providing short hypothetical scenarios on resilience. Respondents then provide a rating for the scenario using the same scale as the SERS module. The examples in Box 1 were used in a recent BRACED survey in Kenya.

Answers to the hypothetical vignette can then be used to re-weight the respondent's self-evaluations. In doing so, we can be more confident that individuals across cultures (or simply those who have different perspectives on resilience) are being compared on a like-for-like basis.

We recommend that, where possible, evaluators using the SERS approach seek to collect panel data to allow for more accurate comparisons over time (as well as across groups). We also caution against drawing firm conclusions from the use of cross-sectional surveys to compare different groups, especially those that have strong cultural differences. In such cases, anchoring vignettes may be of considerable use.

Tip 7: Think carefully about the order of subjective questions

Priming is a key concern in the design of any survey. It is well known that questions asked at the start of a survey are likely to have an effect on responses asked subsequently. This is especially the case for sequences of questions that may be related.

For example, a survey that first asks a respondent to identify the last major flood event, before then administering the SERS module, is likely to be affected by priming (as we discussed earlier). Here, respondents will be encouraged to think back to the flood and will reflect their experiences of past recovery in the SERS score – even if the flood were a very long time ago (and their current ability to deal with flood risk is vastly different).

There are a number of tips to help minimise the impact of priming. First, evaluators should think carefully about where the SERS module is placed in relation to other questions in the survey. If there are any other resilience-related questions, then it may be best to place them after the SERS module. In fact, it is common practice to include 'buffer questions' – splitting up questions on resilience by added unrelated questions between them.

In general, we would recommend that the SERS module be placed early on in the survey to help reduce the likelihood of priming (and survey fatigue). More importantly, it is crucial that any repeated surveys (e.g. panel data) follow the same rough structure. For example, if the SERS module is the first question in the survey, then ensure this is also the case in follow-up surveys. Or, if the SERS module immediately follows a question on household income, then try to ensure the same for all other surveys. This will help ensure that, even if priming does occur, its effects are likely to be systematic (i.e. affect everyone in the same way).

Tip 8: Prepare and brief survey enumerators

An important part of survey preparation is briefing survey enumerators. In large surveys, use of numerous enumerators is common, meaning that teams need to be well prepared to ensure they fully understand the survey script and are standardising how questions will be administered.

It is well known enumerator bias can affect subjective questions. A whole host of factors can affect respondents' answers – from verbal cues, such as the way an enumerator introduces themselves, to visual ones, such as the enumerator's gender, age or appearance.

A number of actions can be taken to minimise these effects. For a start, ensuring enumerators are consistent in how they approach respondents and carry out the surveys can play a large role. Standardising clarification questions and keeping enumerator teams consistent across survey waves are also useful approaches. Evaluators can also benefit substantially from extensive piloting exercises to see whether any significant differences exist in SERS results between enumerators.

Tip 9: Randomise question order and use reverse coding

Alongside priming, survey fatigue is a key issue for evaluators. Long lists of questions are likely to encourage respondents to

lose focus. When this happens, survey respondents tend to respond by answering each question in the same way – often resorting to 'agree', 'agree', 'agree', etc.

Known as acquiescence bias, this effect can significantly influence subjective outcomes. In itself, acquiescence bias is not a major issue for comparing resilience scores across groups or time in the same survey as long as the bias is systematic (it consistently affects everyone in the same way). While this is relatively straightforward to check, it is advisable to use to methods that help address the issue.

One way to overcome acquiescence bias is to ensure questions are cognitively simple to understand and answer – a large reason for the use of clear and easy-to-interpret language in the SERS module. Another option is to use reverse coding. In the case of SERS, each of the questions follows the same structure – oriented towards a positive resilience outlook. However, it is common practice in much of the psychological literature to include a small number of reverse coded questions. In so doing, respondents are encouraged to refocus and concentrate on the questions at hand.

For example, a couple of the SERS questions could easily be reverse coded and oriented towards a negative resilience outlook: '*During times of hardship, your household finds it very difficult to access the financial support you need*', or '*Your household is not at all prepared for future disasters that may occur in your area.*' Answers to these questions would simply be reversed (Strongly agree = 1 instead of 5 as per the other questions) to ensure consistency.

While reverse coding offers a number of advantages, it is not without its own weaknesses. A number of studies have found that it can encourage inconsistent results and reduce internal consistency in ways that are difficult to detect (Suárez-Alvarez et al., 2018). For this reason, we do not explicitly include reverse coded questions in Table 1 and leave this decision to the evaluator. However, it is important that any such decision be transparently communicated, and efforts be taken to ensure consistency when comparing results across groups or survey waves.

A more useful approach is to randomise the order of survey questions. Randomisation does not remove the influence of acquiescence bias for individual responses, but it does help account for it when comparing collective scores across groups. Another advantage of randomisation is that it can reduce the impact of any priming effects, as questions asked immediately before may have an impact on responses to the questions that follow. Fortunately, experiences from randomised experiments in Kenya and Myanmar suggest that question ordering has a minimal if not negligible effect. Despite this, we strongly recommend that question order be randomised wherever possible.

Tip 10: Share your experiences in applying subjective evaluations

Subjective evaluations of resilience are in their relative infancy. We hope that this how-to guide will provide much-needed clarity on what subjective evaluations have to offer, and which scenarios they may be best suited to. We also strongly believe that subjective evidence can be used in much the same way that objective methods are used in traditional monitoring and evaluation. That is to say, subjective evidence is robust enough to guide important programmatic

decisions such as which communities and households to focus on; how to design a resilience-building programme; and whether an intervention was successful or not.

Yet, so far, most subjective evaluations have been carried out as stand-alone research projects. The next generation of assessments will need to take this one step further – targeting development practitioners and key decision-makers. Given its flexibility and adaptability, we envisage that the SERS approach can act as a useful vehicle for answering critical questions for resilience practitioners. This can be achieved only if the resilience measurement community of practice is open to sharing and critically reflecting on its experiences in using these new tools. We therefore encourage evaluators who are tempted to use the SERS approach to share their experiences of what has worked and what has not. Doing so will be crucial in shedding new light on how resilience-building interventions can best support the needs of people and communities on the ground.

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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.

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