CASE STUDY

LESSONS OF CHALLENGE FUNDS FOR RESILIENCE BUILDING

Global Resilience Partnership
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GLOBAL RESILIENCE PARTNERSHIP

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Images

Front cover: Groundswell International; back cover: Mercy Corps/Simone Verkaart

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List of abbreviations

AECF	African Enterprise Challenge Fund
CF	Challenge Fund
CGAP	Consultative Group to Assist the Poor
CIC	Climate Innovation Center
DFID	Department for International Development (UK)
ECIC	Ethiopia Climate Innovation Center
EWS	Early Warning System
FM	Fund Manager
GCIC	Ghana Climate Innovation Center
GFDRR	Global Facility for Disaster Reduction and Recovery
GIF	Global Innovation Fund
GPAF	Global Poverty Action Fund
GRP	Global Resilience Partnership
HIF	Humanitarian Innovation Fund
HLPW	High Level Panel on Water
IFAD	International Fund for Agricultural Development
KCIC	Kenya Climate Innovation Center
MAVC	Making All Voices Count
M&E	Monitoring and Evaluation
MEL	Monitoring, Evaluation and Learning
NGO	Non-Governmental Organization
R1	Round 1
Sida	Swedish International Development Agency
USAID	United States Agency for International Development
WW	Water Window

1. Introduction

1.1 The Global Resilience Partnership

One of the key objectives of the Global Resilience Partnership (GRP) is to create an environment that enables great ideas to thrive. Through the GRP Challenges, GRP identifies innovative ideas with real-world impact and supports these initiatives to achieve their full potential, taking them to scale where possible. The outputs and outcomes from these Challenges are then taken up through GRP's communication work, its policy and influence agenda and the monitoring, evaluation and learning (MEL) workstream.

GRP has commissioned two Challenge rounds: The Global Resilience Challenge (also known as Round 1 or R1 in shorthand) funded by the United States Agency for International Development (USAID), and the Water Window (WW) Challenge with a particular focus on resilience to flood-related issues, funded by the Z Zurich Foundation. Through these Challenges, GRP works with 22 projects and 21 grantee consortia in 16 countries across sub-Saharan Africa and South and Southeast Asia. A third Challenge – the GRP Innovation Challenge – was launched in March to surface resilience solutions at the intersection of Food & Water Security, Peace & Stability, and Disaster Resilience.

1.2 Focus of this document

This case study looks at evidence of good practice in the use of Challenge Funds (CF)[1] to deliver resilience outcomes based on a review of literature. We then review GRP's experience of R1 and Water Window Challenges in light of this evidence with the aim of drawing lessons for future potential GRP Challenge Funds. Beyond GRP and its partners, the report is also aimed at those considering sponsoring Challenge Funds as well as those involved in managing or running them.

1.3 Structure of this report

Section 2 sets out the methods we have used for the literature review. In Section 3, we begin by defining Challenge Funds and then consider their unique features. Section 4 and 5 present a summary of key lessons for design of future Challenge Funds based on GRP Challenges and the literature respectively. This case study draws on a number of evaluations and integrates findings from learning reviews of GRP R1 and WW conducted by Itad. By way of conclusion, Section 6 reflects on the evidence presented and considers resilience-specific issues and implications for GRP. A summary of all the Challenge Funds referred to in this case study is presented in Annex 1.

[1] Note that we use Challenge Funds and Challenges (capitalized) interchangeably as collective nouns.

2. Methods

There have been many evaluations of Challenge Funds across a range of sectors[2] but few have been asked to reflect on what it is about the Challenge Fund structure that has helped or hindered delivery (Richardson *et al.*, 2015). A limited number of reviews of multiple Challenge Funds used by major donors and challenge fund managers do exist: see KPMG (2012), O'Riordan *et al*. (2013) Pompa (2013), ICF International (2016), Lawday *et al*. (2017), R4D (2017) and IPE Triple Line (2018). We draw on all of these but note that the R4D (2017) focus on the water sector for High Level Panel on Water (HLPW) and the IPE Triple Line (2018) review of the Swedish International Development Agency's (Sida) Challenge Funds are particularly relevant. We have also drawn on an evaluation of the Amplify program (IPE Triple Line & A2B Labs, 2019) funded by the UK's Department for International Development (DFID) as this highlights issues from running Challenges on a standalone platform and because GRP co-funded one of the Challenges.[3]

Where possible we aim to provide clear guidance to GRP on practice to follow or avoid. However, this has to be tempered by the lack of robust evidence on good Challenge Fund design. For example, the IPE Triple Line (2018) review of Sida's Challenge Funds is based on a mix of in-depth end of program evaluations (e.g. for Making All Voices Count, MAVC); mid-term reviews (e.g. African Enterprise Challenge Fund, AECF); and programs such as the Global Innovation Fund (GIF) that had no formal evaluation to draw on. This means that some caution is needed in drawing findings across Challenge Funds covered by the Sida-commissioned review.

GRP expressed interest in including the MIT Climate Lab and, as this has not yet been evaluated, we have drawn on an evaluation of the pilot contest web approach (Malone *et al*., 2017) and the GRP formative evaluation conducted by Itad (Robens *et al*., 2019) that includes some MIT Climate Lab stakeholder and GRP Challenge grantee interviews.

[2] A 2015 IOD PARC-led review for DFID identified 56 Challenge Funds.

[3] Challenge 4 (of 10 under Amplify). Challenge 4 was on urban resilience and was entitled: How might urban slum communities become more resilient to the effects of climate change?

3. Challenge Funds and the Innovation Context

3.1 Challenge Funds defined

For GRP the Challenges.

> "Are a series of competitions hosted by the Global Resilience Partnership to tackle the world's most intractable problems. Through the Challenges, the Resilience Partnership surfaces bold, innovative ideas with real-world impact that may start small, but have the potential to scale up"
>
> (http://www.globalresiliencepartnership.org/challenge/).

A Challenge Fund according to the UN HLPW,

> "is a financing mechanism designed to surface innovative products, services, and approaches that have some important social value, such as contributing to progress toward the SDGs. Examples of challenge funds include: USAID's Wash for Life initiative, and the Challenge Program on Water and Food, spearheaded by the Consultative Group on International Agriculture Research"
>
> (R4D, 2017).

Sida has defined a Challenge Fund as a:

> "financing mechanism to allocate (donor) funds for specific purposes, using competition among organisations as the lead principle".

Challenge Funds are different from conventional funding processes as the grantees typically have a large degree of freedom in finding and designing innovative solutions. The funds are therefore focused on a desired outcome and the means are not prescribed (IPE Triple Line, 2018).

In practice, GRP has used Challenge Funds in keeping with both the HLPW and Sida definitions. Some earlier definitions stressed the commercial viability of Challenge Fund solutions (KPMG 2012, Pompa, 2013) reflecting delivery by private business in funds such as the African Enterprise Challenge Fund (AECF). However, GRP resilience interventions include innovations that are based on commercial providers (e.g. microfinance) *and* non-commercial agents (e.g. institutional strengthening for disaster response). This makes the HLPW and Sida definitions most relevant to GRP.

O'Riordan *et al*. (2013) attempt to distinguish Challenge Funds from other financing mechanisms using seven funding criteria, shown in the summary Table 1.

These criteria include:

1. Grant or subsidy element:
2. Explicit public purpose:
3. Interagency contract:
4. Competitive selection:
5. Open selection process:
6. Autonomy in implementation:
7. Risk sharing:

Unfortunately, the variation in practice within each funding modality makes it difficult to clearly delineate the different funding categories, hence the use of "?" by the authors. Challenge Funds

clearly differ from social impact bonds in that for the latter, implementers only receive funding if specified outcomes are delivered and there is an obvious difference with making unconditional gifts. However, O'Riordan *et al*. do not appear to recognize that development funding via public procurement can have most of the characteristics attributed to Challenge Funds. For example, public procurement can involve both grants[4] and risk sharing (through public-private partnerships[5]).

Table 1: Distinguishing Challenge Funds from other funding mechanisms

Type of Funding Modality	1. Grant or subsidy element	2. Explicit public purpose	3. Interagency contract	4. Competitive selection	5. Open selection process	6. Autonomy in implementation	7. Risk sharing
Challenge Fund	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Open research grants	Y	Y	Y	Y	Y	Y	Y
Managed funds	?	?	?	?	?	Y	Y
Prize fund	Y	?	?	?	?	Y	?
Technical assistance	Y	Y	Y	?	?	?	Y
Advanced market commitment	Y	Y	Y	Y	Y	Y	N
Social investment bond	Y	Y	Y	?	Y	Y	N
Social impact investing	?	Y	Y	N	N	Y	Y
Public investment	Y	Y	N	?	?	N	Y
Unconditional gifts	Y	?	?	N	N	Y	N
Venture capital fund	N	N	?	?	?	?	Y
Public procurement	N	?	Y	Y	Y	N	N

Note: Y = present, N = absent and ? = potentially either. Source: Adapted from O'Riordan *et al.* (2013)

At least one of the Sida Challenge Funds reviewed by IPE Triple Line 2018 would be characterized as "Open Research Grants" in the table above. In fact, O'Riordan *et al.* note that the difference between the two categories is simply that the goal of research grants is research. While the delineation of funding modality in the table above is useful, our assessment is that *the key difference* between a Challenge and responding to a traditional invitation to tender is the much greater scope to offer an innovative solution under a Challenge Fund.

3.2 Resilience Challenge Funds

We see above some of the characteristics of a Challenge Fund versus other funding modalities. Here we look specifically at Challenge Funds which have been focused (or at least aspects) on resilience or related themes. Table 2 below gives an overview of Challenge Funds referred to in this case study, with full summaries presented in Annex 1.

[4] EU grant money spent via public procurement - https://ec.europa.eu/regional_policy/en/information/publications/guidelines/2018/public-procurement-guidance-for-practitioners-2018

[5] See Hovey (2015), https://www.iisd.org/sites/default/files/publications/risk-allocation-ppp-maximizing-value-for-money-discussion-paper.pdf

Table 2: Overview of Challenge Funds considered as part of this review

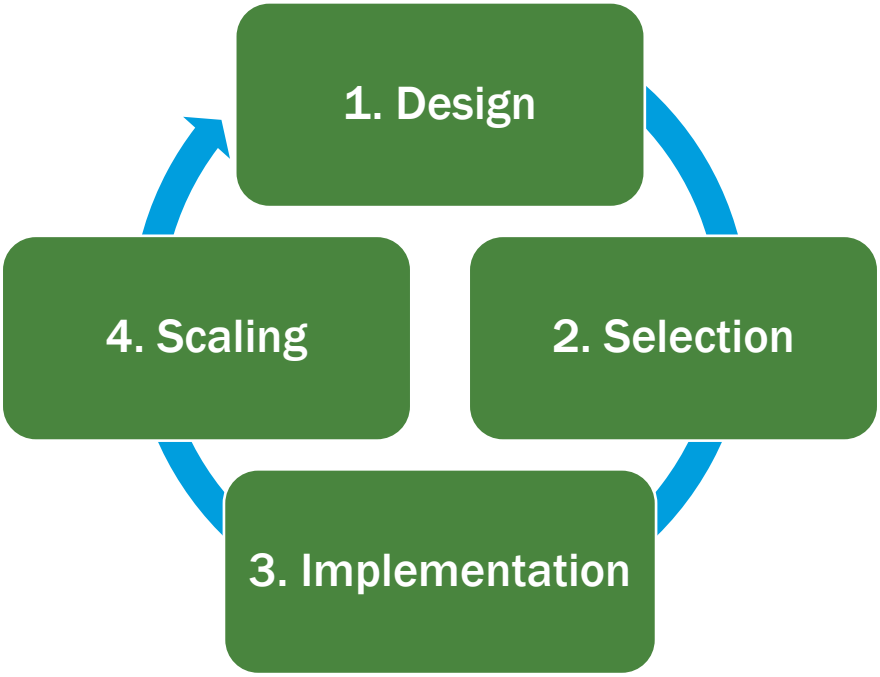
Challenge Fund	Funders	Region	Dates	Grant size	Fund overview
African Enterprise Challenge Fund (AECF)	Australian DFAT, CGAP, DFID, Dutch Govt, Global Affairs Canada, IFAD, Sida	Sub-Sahara Africa	2008 – present	$365 million disbursed; grants of $100,000 to $1.5 million	Focus on agribusiness, renewable energy sectors, resilience & rural financial services 27 competitions launched, funding 266 businesses
Amplify	DFID	Sub-Saharan Africa, Central Asia, South Asia, Middle East	2013 – 2019	£10.1 million total; grants of £100,000 & 18 months of technical support	Eight rounds, each asking for responses to specific challenges in urban resilience, education, agricultural innovation, youth employment, inclusion & health sectors Collaborative, open applications process to facilitate working with small community-based organizations
Challenge Program for Water & Food Innovation Fund	AusAID, EC, CIRAD, DANIDA, GIZ, IFAD, Sida, SDC	Ganges, Limpopo, Mekong, Nile & Volta river basins	2011 – 2014	>$165,000 disbursed in total; grants of $7,000 to $20,000	Focus on river basin management, livelihoods, community participation, hydropower and sustainable development; and on building stakeholder capacity for utilizing research Eight projects of less than one-year duration selected
Climate Innovation Centers (CIC)	WBG	Ghana, Kenya, Ethiopia	2016 – present	Grants of $25,000 to $37,500 disbursed	Provision of early-stage financing, business advisory services and market information to SMEs Focusing on sustainable agribusiness, biofuels and biomass, transportation technologies, micro-hydropower and energy efficiency, and renewable energy
Global Facility for Disaster Reduction and Recovery Challenge Fund	Multi-donor trust fund	South Asia, Southeast Asia, sub-Saharan Africa	2016 – present	$2,147,500 in funding leveraged by 2017	Focus on better disaster risk information and communication that accurately reflects the realities and needs of at-risk communities Four Challenge rounds focused on data, communications and financial services
Global Innovation Fund (GIF)	Australian DFAT, DFID, Omidyar Network, Sida, USAID	Developing countries	2014 – present	>$60 million disbursed; investments in form of grants, equity & debt of $50,000 to $15 million	Social change innovations including new technologies, business models, policy practices, technologies or behavioral insights with capacity to be scaled up Any sector within international development, focused on people living on less than $5 a day
Global Poverty Action Fund (GPAF)	DFID	Central Asia, South Asia, sub-Saharan Africa, Middle East, Pacific Islands	2010 – 2014	Approximately £95 million disbursed Community orgs – grants up to £250,000 / Impact partners – grants £250,000 to £4 million	Poverty reduction & pursuit of the Millennium Development Goals (MDGs); empowerment and accountability, work on conflict, security and justice Two types of grantee: community organizations & impact partners
GRP Global Resilience Challenge	Rockefeller Foundation, USAID	Sahel, Horn of Africa, Southeast Asia	2016 – 2017	10 grants of up to $1 million	Broad emphasis on adapting to chronic shocks and stresses Implementation of scaling-up solutions, through technologies, early warning systems (EWS), livestock & land management, and adaptive agriculture & livelihoods interventions
GRP Water Window Challenge	Z Zurich Foundation	Sahel, Horn of Africa, South Asia, Southeast Asia	2017 – 2018	12 grants awarded to seed & scale projects of up to $1 million	Focus on flood-related issues including river basin management, coastal erosion, urban resilience, & amphibious housing Seed grantees developed and piloted innovative solutions; scale grantees took effective initiatives to scale

Challenge Fund	Funders	Region	Dates	Grant size	Fund overview
Humanitarian Innovation Fund (HIF)	Canadian International Development Agency, DFID, ECHO, Netherlands Ministry of Foreign Affairs, Swedish Ministry of Foreign Affairs	Eastern Europe, Caribbean, Central and South America, Middle East, Central, South and Southeast Asia, Pacific Islands	2011 - present	Small grants from less than £10,000 to $250,000	Three key areas relevant to humanitarian contexts: WASH, gender-based violence, and scaling of humanitarian innovations Grants awarded for short-term research projects, and for development and piloting of technology adapted to humanitarian contexts
Making All Voices Count (MAVC)	DFID, Omidyar Network, Sida, USAID	South Asia, Southeast Asia, sub-Saharan Africa	2013 – 2017	£11.67 million disbursed; 178 grants awarded	Supporting innovative ideas, especially technological solutions, that improve citizens' engagement with governments Focus on reduced corruption & more effective government response
MIT Climate CoLab	National Science Foundation, MIT Energy Initiative, MIT Sloan Management, V. Kann Rasmussen Foundation	Global reach	2007 – present	$10,000 grants awarded	Collaborative open access problem-solving approach 110 contests themed around specific climate change issues, including energy, carbon pricing, absorbing impacts, circular economy, clean/adaptive industry, and waste management Awards decided through expert panel and by popular vote
Sida Demo Environment	Sida	Sub-Saharan Africa, Latin America, Western Balkans, Eastern Europe	2007 – present	Planning grants of up to $40,000; demonstration grants of $50,000 to $200,000 By 2018, $4.9 million disbursed	Emphasis on cleantech products, systems, processes, & services that offer clear advantages over competing solutions in the following focus areas: climate change adaptation/mitigation, ecosystem service, renewable energy, and water and sanitation Grants available for early-stage support to entrepreneurship (planning), and for import of technologies with potential for local applications (demonstration)
Sida Sustainability & Resilience	Sida	Sub-Saharan Africa, South and Southeast Asia, South America	2019 – 2021	Average grants of $180,000 $8.1 million available in total	Funding call for research projects into tackling environmental and climate changes relevant to poverty reduction and sustainable development in low-income countries Focus on promoting research links between Sweden & low/middle income countries
WASH for Life	Bill and Melinda Gates Foundation, USAID	Any USAID country, with focus on Bangladesh, Ethiopia, Ghana, Haiti, India, Kenya & Nigeria	2011 – 2017	$17 million total; grants of $200,000 to $5 million	Focus on identifying, testing, and scaling promising approaches to achieving cost-effective, sustainable solutions in water, sanitation, and health sectors Grants awarded for proof of concept, testing for scale, scaling & research projects

4. GRP Challenge Fund learning

There is considerable variation in how Challenge Funds run, with some focusing on allocating scaling funding for narrow commercial purposes through to funding early-stage social innovation grants. Nonetheless, a typical Challenge Fund will involve the four stages shown in Figure 1 below. Monitoring and evaluation (M&E) are particularly important at Stage 3 and when moving from Stage 3 to 4, and learning should occur at each Stage. GRP Challenges have followed this model and we draw out lessons for each stage in the remainder of this section, with lessons based on the GRP Formative Evaluation (Robens *et al*., 2018) and GRP Challenge Syntheses.

Figure 2: Challenge Fund stages



4.1 Design

GRP challenge design

Great ideas can be born anywhere but need the right environment to thrive. There is a need for a safe space to test and scale disruptive, bold ideas for doing development differently, by building resilience of people and the planet. This is why GRP surfaces and tests resilience innovations and incubates new ideas by designing and running Challenges. GRP also acts as a broker to scale up public and private investment in these innovations. Innovation and scaling are closely linked to GRP knowledge brokering activities to draw out key lessons from GRP Challenges. GRP has launched two Challenge rounds to support innovations for resilience:

- **Global Resilience Challenge** (GRC, Round 1 – R1): This is a general resilience call, which received nearly 500 submissions. It is a grant competition funded by USAID (with support from the Rockefeller Foundation[6]) focused on developing and implementing locally driven, high-impact solutions to build resilience in the Sahel, the Horn of Africa, and South and Southeast Asia.

[6] Rockefeller did not fund the Challenge projects directly but provided core funding for set up of the Round One challenge

- **Water Window Challenge** (WW, Round 2 – R2): This is a specific flood resilience call, which received almost 300 submissions, funded by the Z Zurich Foundation. Grants were provided to consortia, alliances or partnerships of non-governmental organizations (NGOs), local government, private sector and research organizations to either seed innovative ideas or scale up actions on the ground in order to build resilience in the Sahel, Horn of Africa and South and Southeast Asia.

GRP Challenges are working to improve the ability of communities and systems to prepare for, adapt to, and thrive in the face of shocks and stresses. Inherent to the Challenges is the recognition that solutions for building resilience are as diverse and interrelated as the problems themselves. The range of shocks and stresses facing each of the three geographic focus regions is diverse. As such, it was expected that the Global Resilience Challenge (R1) would fund a diverse range of promising solutions to overcome the critical problems identified. The Water Window Challenge was specifically focused surfacing new innovative ideas and solutions to help flood-prone communities reduce their exposure to flood risks and increase their ability to grow successfully in the face of uncertainty.

For both Challenge rounds, donors were closely involved in the design. For Round One there were three key issues that funders wanted to feature: inclusivity, testing of ideas and scaling ideas. The Z Zurich foundation was very involved in the Challenge design and had a clear vision about where they wanted to be involved and what the objectives should be. They wanted to be more than just a funder, and they feel that was achieved (Robens *et al*., 2018). Positive feedback around the design and management of the Challenge Fund relates to learning from Round One feeding into Water Window to improve the process. GRP Challenge Funds have been managed by the Challenge Manager KPMG.

GRP design learning

Resilience building is a complex endeavor and time is needed to establish systems to support effective programming. Such time was not always available when setting up the first two GRP Challenges. While some lessons were learned from the first round which could be used in the Water Window Challenge which lead to smoother implementation, the program has been characterized by change as it has developed, with staff, strategy, funders, structures, partners, guidance, and systems being developed and revised throughout program delivery. While a level of agility is important in a program addressing innovation, there were difficulties experienced by processes having to be developed at the same time as delivery. Grantees learned that establishing foundations for their resilience projects also requires time—for example building effective partnerships, engaging beneficiary and other stakeholder buy-in, and testing progress in resilience building. This needs to be accompanied by a supporting structure with clear decision-making channels, and clear roles and responsibilities of the organizations engaged.

For future Challenges, clearly defining resilience, communicating its role, and identifying tangible actions in relation to GRP's overall strategy are important steps. A key learning is that effective programming requires clarity from the beginning (i.e. before implementing activities) regarding the problem and how it could be addressed. This does not only refer to variations in how the definition is worded or framed, but also to the multitude of "principles," "qualities," "dimensions," and "characteristics" that go beyond a simple definition and aim to describe what resilience is about (ODI, 2015). Specifically, there is a need for a shared understanding of resilience as a precursor to designing and implementing resilience activities. Similarly, there is a need for an agreed definition of resilience in order to effectively evaluate progress in resilience-building activities. It is also important to be cognizant of what is happening at the local level, including community perspectives of resilience building, in order to effectively implement relevant and sustained resilience activities.

4.2 Selection

The requirements for application and approach to grantee selection have implications for ensuring financial support reaches actors with the capacity to effectively implement resilience activities, including both traditional and non-traditional actors who have on-the-ground experience and understanding of what is required for resilience. Following initial selection, space should be created for grantees to develop ideas appropriate to the requirements of the Challenge.

GRP Challenges follow a competitive process that brings together multidisciplinary teams to collaborate with local and regional stakeholders in the diagnosis of resilience problems and opportunities for viable, locally driven, and high-impact solutions. Applicants were encouraged to form diverse teams, drawing people from various backgrounds, sectors, and organizations. Team size varied according to need—but teams needed to have a diverse, multidisciplinary membership and demonstrated credible and locally driven understanding of the barriers to building resilience in their focal region. Team members were tasked to collaborate to identify the most critical barriers to building resilience and then to develop comprehensive solutions that overcome these persistent issues as part of the proposal and selection process. Teams were able to add new members in order to build their capacity and expertise as needed.

The GRP application process was divided in multiple stages and included support to grantees to develop concept notes. The two rounds of grants, Round One and the Water Window, had slightly different application and selection processes, with the Water Window being designed partly based on feedback and analysis of the Round One selection process. In both cases, technical experts from funders were involved in assessing and selecting the winning grantees. Grantees were selected based on their team composition and the quality of the Concept Note against the following criteria:

- **Transformative** – contributes to systemic change within the chosen region and topic.
- **High impact** – demonstrates potential to deliver impact on poor and vulnerable people.
- **Scalable/replicable** – demonstrates potential for impact on a regional or global scale.
- **Feasible** – technically sound and faces limited and/or manageable risks.
- **Sustainable** – presents evidence that the solution has strong public sector buy-in or market adoption and that the solution would continue to build momentum with a broad base of stakeholders.

Round 1 Selection

The Round 1 selection process took place over multiple stages. Applicants compete in Stage One for funding to articulate problems and in Stage Two to develop solutions (up to US$ 200,000) and finally in Stage Three to implement solutions (up to US$ 1,000,000). In other grant making processes, applicants are expected to bear the cost of Stages One and Two. The up-front investment in both stages can help to ensure a better product in the end. The fact that applicants need to compete at each stage of the process means that there is pressure to keep performing. The trade-off is the additional transactions costs at each stage of the process. The three-stage competitive grant process aimed at bringing together multisectoral, multi-disciplinary teams (See Box below for detailed overview):

During the selection process (Stage 2), GRP brought selected grantees together for workshops in Bangkok and Nairobi, where grantees could meet and provide input on each other's proposals. They also received a grant to research and develop proposals over six-months, the 'solution statement development process'. The selection process aimed to facilitate the efficient identification of the best applications, while avoiding perceptions of bias in selection. Key to this was formulating selection criteria that were open-ended enough to foster creativity and innovation, while still strategically focused on relevant resilience areas.

Global Resilience Challenge Stages

1. **Stage One: Teams for Resilience.**

Diverse, cross-sectoral, multidisciplinary teams assemble and apply with a pre-proposal that identifies critical obstacles to building resilience. Teams that best demonstrate an understanding of their region's needs and the commitment, creativity, and capacity of their members to address barriers to resilience are invited to advance to the next stage.

a) Interdisciplinary teams self-organize and apply to the Challenge with a list of Team members and their qualifications, and a Pre-Proposal that describes the direction the Team will take in their Stage Two Problem Statement.
b) An Evaluation Panel composed of international and regional resilience and technical experts will recommend a select number of finalist Teams to advance to Stage Two.
c) Finalist Teams will be selected based on their team composition and the quality of the Pre-Proposal submitted. A Selection Committee will make the final decisions on selection.
d) Teams selected at the end of Stage One will be required to provide a Scope of Work and detailed budget, and enter into an agreement with the Challenge Manager.

2. **Stage Two: Problems and Solutions for Resilience.**

Selected teams receive funding to further develop their problem statement and construct a bold, scalable, and sustainable solution to compete for Stage 3 funding. Also, during this stage, selected problem statements are made public and new teams invited to enter the competition with proposed solutions for a subset of Stage 3 funding.

a) This is the problem diagnosis and solution development stage.
b) Selected Teams awarded up to US$ 200,000 to participate in Stage Two.
c) Proposed solutions that focus on inherently small-scale, highly location-specific, and/or community-specific opportunities with limited potential to be scaled up and replicated would not be selected to advance to Stage Three.
d) Funding will be disbursed, subject to approval, in two tranches.
    i) *Initial Tranche Payment for Development of Problem Statements:* A first tranche of Stage Two funding enables Teams to collaborate with a variety of stakeholders to research and develop an evidence-based Problem Statement that identifies and addresses barriers to building resilience in their region. An Evaluation Panel will review Problem Statements and those that are not approved will be eliminated from the Challenge and not receive a second disbursement.
    ii) *Second Tranche Payment for Development of Solution Statements.* Teams continuing in the competition receive a second tranche of funding to develop a Solution Statement to the Teams' approved Problem Statement. Teams will identify and develop a locally-implementable and regionally-scalable solution for the articulated problem. This work will culminate in the submission of a Solution Statement for Stage Three funding. This should identify partners, indicators and include a budget and timeline.

3. **Stage Three: Action for Resilience – Implementation of Solution Statements.**

The most innovative, high-impact, and transformative solutions receive funding for implementation, and teams have the chance to turn their ideas into reality. The Challenge creates opportunities for better understanding regional vulnerabilities, strengths, and interdependencies. Through collaboration, teams identify scalable solutions to build resilience.

a) Solution Statement will be evaluated by an Evaluation Panel.
b) The winning teams will be given a monetary award, of up to US$ 1.0 million for implementation of the Solution.

c) Teams selected for Stage Three funding will be required to provide a Scope of Work, MEL plan and Budget, and enter into an agreement with the Challenge Manager.

Water Window Challenge selection

Water Window Grantees were selected through a two-stage process (see Figure 2 below for detailed process overview):

1. **Stage One: Teams for Flood Resilience**

In the first stage, a call was made for interdisciplinary teams to self-organize and apply to the Challenge with a list of Resilience Team members, their qualifications and a concept note. Resilience Teams had to demonstrate experience in interdisciplinary problem analysis and program implementation related to the region and topics. Teams had to include at least one local organization with operations primarily located in the team's selected region. The concept note described the direction the Resilience Team would take if selected. A Resilience Partnership Selection Committee composed of international and regional resilience experts chose a select number of Finalist Resilience Teams to advance to Stage Two.

2. **Stage Two: Action for Flood Resilience – Implementation**

Successful Stage 1 applicants were required to submit a detailed proposal and refined budget in Stage Two, alongside implementation plans. Technical assistance was provided to the Resilience Teams to refine and enhance the potential success of their plans. Resilience Teams were eligible for monetary awards up to US$ 250,000 for seed grants, and up to US$ 1 million for scaling-up grants. Finalist Resilience Teams representing 11 grantees and 12 projects emerged as winners. Each was required to provide a detailed Scope of Work and budget, and thereafter enter into a formal grant agreement.

GRP Selection Learning

The concept of the GRP Challenge Funds was very attractive to grantees because of the focus on innovation, support given to develop concepts, the language around learning from failure, and the funding for scaling up. The majority of the grantees very much appreciated the application process which they found interesting thanks to the different rounds and the support they were given in developing the concept notes. A review of the Round One process carried out by GRP recommended reducing the stages but increasing mentoring, an element that was highly regarded by Water Window grantees. This also allowed addressing issues around the capacity of grantees, to make sure they produced high quality proposals and business cases. Nevertheless, Water Window grantees reported that there were multiple administrative demands and tight deadlines during contracting. Overall though, grantees felt the selection process was worthwhile because they were able to learn and develop through the way the application process was run (Robens *et al*., 2018).

Effective partnerships are critical for building resilience, and it is recommended to engage effective and experienced partners who are committed to working collaboratively towards program aims and across program activities. Partnerships for resilience building should support collaboration across: (i) scales, from local to national, regional and global; (ii) stakeholders, including local communities, governments and private sector; and, (iii) geographies. Such partnerships enable contextual feasibility, effective implementation, knowledge sharing and sustainability of implementation and outcomes beyond the project lifetime. Local partners' capacity to collaborate and deliver is key. Learning from GRP R1 found that grassroots organizations faced particular barriers to producing applications of necessary quality, and that the lack of guidance in clear English that avoided development jargon was a factor in unsuccessful applications from small, local, private sector organizations (GRP, 2016). GRP's mentoring approach to the application process was cited as particularly useful by grantees. Similarly, grantees advise that resilience programs should prioritize efforts to leverage buy-in of multiple stakeholders and appreciate that the development of these partnerships is encouraged in the GRP Challenge rounds.

4.3 Implementation

GRP implementation

Working in turbulent climatic and political contexts requires flexibility in planning, implementing and managing resilience programs. This requires clear and efficient internal processes that allow for an element of flexibility to allow for adaptability. Flexibility allows challenges and opportunities to be addressed during implementation, as a better understanding of the context is developed. GRP built in flexibility by allowing grantees to make changes to their project during implementation. This was especially the case for the Water Window, where grantees could substantially adapt project activities and budgets during implementation (e.g. Lutheran World Relief). However, project reporting and monitoring systems were not as agile as needed for optimal adaptive and flexible implementation. GRP still needed to deliver against a contract with associated budget and reporting requirements of the donors. This was necessary for accountability but restricted flexibility. This suggests that flexibility and adaptability have to be designed in with program funders. Another issue was that of timing, with grantees reporting contracting delays, which meant that they found it difficult to plan their activities. However, there was more flexibility as part of the completion of the project and their 'close out'.

GRP grantees carry out their own Monitoring, Evaluation and Learning (MEL) activities to meet the information needs of their project, reporting progress and learning. Grantee documentation outlines their project aims, objectives, and approach to resilience building. This is reported in detail in the Round One quarterly and final reports and the Water Window semi-annual reports. GRP believes in the value of practical learning, captured and communicated through rapid feedback loops. The aim is to learn from grantees about not only what worked, but also what did not work, why and how, and to pull that information together to identify key functions of a successful approach to increasing resilience. GRP's Monitoring, Evaluation and Learning (MEL) team supported grantees through:

1. Direct grantee support: This includes written MEL and indicator guidance, one-on-one coaching during MEL clinics and ongoing support via a virtual MEL helpdesk. Guidance on indicators, learning and scaling was provided in a series of MEL webinars. GRP also conducted site visits to better understand project progress and provide MEL support.
2. Knowledge products: An internal Formative Evaluation was conducted by Itad and provided lessons learned across GRP, with a focus on the two Challenge competitions. The team also developed grantee specific case studies and final synthesis reports collating learnings and progress made by grantees, and feeding this into the GRP Insights report.
3. Strategic MEL support: The GRP MEL team has been developing a Management Information System (MIS) to collate, store, and manage GRP grantee reporting data and learning documents. It includes a Solutions Platform, which will provide a resource to GRP partners and the wider resilience community to find information on applied resilient solutions and lessons learned.

Harnessing and leveraging grantee stories and results is a key focus of GRP communications. GRP has contracted a PR and Communications agency to support and promote grantees by ensuring their innovations and achievements receive maximum visibility among key global audiences. To this end, GRP communications used a combination of approaches, including:

- **Storytelling and Content Development:** Storytelling audits were conducted to provide a repertoire of grantee-generated content across various media.
- **Newsletter:** A monthly newsletter was developed to further contextualize grantee work within topical global events and conversations, and distributed to a subscriber list of over 2,700 recipients.
- **Media Relations and Engagement:** A media hit list was developed and continuously updated while targeted outreach pitched grantee projects and stories around key events and news triggers.

- **Social Media:** Social Media was a key medium through which GRP Challenge communications engaged with a broader audience.
- **Capacity Building:** This included face-to-face trainings during GRP workshops and webinars as well as remote support.

GRP Implementation learning

To allow for flexibility and adaptive management, Challenge Fund designs should pay specific attention to operational issues and the complexity of working across different administrative and contractual requirements of partners. In addition, grantee management systems (reporting requirements, review templates, site visits) need to be designed and in place, deadlines need to be met and timely feedback provided. In terms of management, technical flexibility needs to be supported by flexibility in budgets, workplans and reporting requirements. Key enablers to this are clear communication and rapid and effective decision-making by all stakeholders involved.

Grantees recognized and valued technical support around reporting, with people finding it challenging but a good learning process. Guidelines were clear and helpful (albeit disseminated late) and there was enthusiasm about collecting qualitative information and telling a story. However, some budget and reporting requirements were deemed onerous. Also, it was not possible to assess grantee impact. Resilience-building projects typically focus on resilience capacities (intermediate outcomes) which makes impact evaluation more difficult. First, it may take a number of years (most likely longer than the project life) for increased capacity to translate to resilience in the face of a shock. Second, even if we expect to see increased resilience at the end of two or three years of implementation, a significant shock may not occur during this time. For the program as a whole, this means that a larger number of impact evaluations would have been required over a longer period than most other Challenge Funds. Overall, though, there was positivity about M&E and grants management support and praise for the induction and close-out workshops and the opportunity they gave to network, learn from each other, and have queries answered by GRP staff.

4.4 Scaling

GRP scaling

A common problem with Challenge Funds is grantees struggling to secure additional funding following the end of their project. GRP recognizes that obstacles to scaling are not limited to funding, however, and include leadership issues, team structures, long-term “ownership”, implementation practice, technical expertise, and challenges related to funding cycles. At the same time, Challenge Funds provide an important space to test innovations, take risks and embrace and learn from failure. GRP is convinced of the importance of a learning-from-failure approach and aimed to get the thinking out there that failure is ok. Grantees adopted different approaches to scaling that are appropriate for their innovations and acknowledge the need for contextual suitability. These approaches align with categories of scaling:

- **Scaling up** to broader levels of political influence (i.e. from community to regional to national and global).
- **Scaling out** to communities residing in different geographical regions, or to different themes (e.g. from farmers to fishers).
- **Scaling deep** to support structures, capacities and behaviors.

Grantees have gained institutional support, including from development partners operating at global scales to promote their initiative, and from local partners to sustain and scale the innovation after project end. GRP facilitated connections between grantees and similar initiatives in their area. This includes providing access to networks, opening doors, and getting encouragement, for example, by linking grantees with relevant GRP partners and other stakeholders, as evidenced by GRP connecting the University of Sydney to key policy stakeholders in disability inclusive Disaster Risk Reduction. In addition, GRP supports grantees in convincing private sector partners of the value of their innovation and in building effective

business models. The sharing of grantee results, knowledge and experience through the forthcoming GRP solutions platform and knowledge products is also a potential avenue for scaling, raising awareness and influencing policy.

GRP Incubator

GRP provides dedicated support to grantees to scale their innovations through the GRP Incubator. The role of the Incubator is to identify grantee specific challenges and provide support so that they can reach their full potential. The Incubator engages with the grantees throughout the life cycle of the Challenge grants. The engagement, and relationship, starts with mentoring during the application process, followed by participation in induction workshops. During the implementation phase, the Incubator continues to support grantees on an on-demand basis. Critical to the effectiveness of this support has been: the level of trust established between the grantee and the GRP; the available capacity and willingness on the side of the grantee; and clarity on the nature of support needed/expressed by the grantee. Grantees participated in various Incubator activities such as the Leadership Academy, direct mentoring and coaching support.

Toward the end of the implementation period, the Incubator undertakes a desk-based Gap Analysis of each grantee based on how well they perform on a resilience scale and how scalable they are. This assessment partly informs the decision on future Incubator support offered and agreed with each grantee. The other source of insight comes from the dialogue with grantees to establish what they need help with to ultimately scale. The Incubator team engaged with the grantees using the process outlined in the figure below.

Grantee Engagement Process

The GRP Incubator also provides grantee support during a close-out workshop in response to findings of Gap Analyses and needs expressed by grantees. Through this process the Incubator has been able to build up a knowledge base as well as encouraging linkages between the two Challenge windows. The aim is to better prepare grantees for scale, according to their individual needs. These often included: a more pitch-ready presentation, support in developing models and applications, as well as working on issues related to leadership and organizational structures. Incubator support to GRP Challenge grantees includes:

- **Investors'** Forum: Bring together GRP partners with private and public sector funders.
- **Leadership** Academy: Build leadership capacities for better resilience work, as well as more resilient and mentally healthy professionals and implementers.
- **Case studies**: Explore scaling work done by the grantees to facilitate future learning and to illustrate what to consider when designing and scaling future solutions.

GRP scaling lessons

Be clear and explicit about scaling, including what it means, what is possible, what the options are, and what the learning process is. There is evidence and potential for progress towards scaling among grantees, and grantees are keen for GRP support to scale up their innovations. Grantees recognize robust partnerships, stakeholder engagement, proof of concept, visibility, financing, technical capacity, and contextual suitability as key enablers to scaling. Grantees see the sharing of their results, knowledge, and experience as an efficient avenue for scaling, through raising awareness, leveraging funds and influencing policy. They consider a role for GRP in supporting scaling through additional funding, facilitating organizational connections, engaging the private sector, communicating results, and creating a space to test innovations. This role is currently evolving through the work of the incubator hub, which is being further explored through scaling case studies currently being developed.

5. Lessons on Challenge Funds from the Literature

The sub-sections below set out findings from the literature against each of the Challenge stages.

5.1 Getting the design right

- **There is some evidence that a narrower focus improves outcomes.** Sida's review of funding for 10 Challenge Funds concludes that those with a "greater regional and sectoral focus have achieved better outcomes" (IPE Triple Line 2018, p69). The HLPW review suggests this effect is likely because "… designing a challenge fund that is too broad can dilute the call to action, making it more difficult to develop a pool of promising solutions" (R4D 2017 p25). This being said, both the GIF and Global Poverty Action Fund (GPAF) Challenge Funds have a broad poverty reduction focus but are seen as successful (IPE Triple Line, 2018, 2019). In these cases, a clear theory of change led to well-defined Challenges and helped maintain focus. Similarly, GRP has not found a difference in successfulness between the relatively broad and relatively narrow Challenge windows (Round 1 and the Water Window, respectively).

- **The Challenge Fund should address a specific development problem where there is no tested solution available**. Even broad problems (such as resilience or poverty) need to be clearly stated with a shared understanding of the theory of change. If a tested solution already exists (e.g. a vaccine for a disease) it can be procured directly and there is no need for a Challenge. In the case of GIF, project appraisal has been designed to help the fund manager (FM) understand how well disparate proposed projects are likely to impact on poverty (specified in dimensions of well-being of the poor) using a consistent approach. This helps to weed out solutions that fail to address development problems or have no route to scale.

- **Challenge Funds that rely on competitive grants through funding windows tend to become more strategic and directive on problem definition over time in order to move toward scale and transformational impact** e.g. HIF WASH and GBV Challenge Fund windows (Lawday *et al*., 2017) and Ghana Climate Innovation Center (GCIC) (Yaron *et al*., 2019). The cost is the loss of more radical innovation ideas. Challenge Funds that are able to support successful early-stage innovators to grow over a number of years with changing funding instruments and tailored non-financial support (e.g. AECF and GIF) can combine open Challenge calls with scaling. However, evidence from the innovation literature suggests that it requires a 5-year-plus time horizon and institutional commitment and funding to support successful grantees to move along the innovation pathway (Nesta, 2017). The evidence in this paper suggests that Challenge Fund windows *by themselves* are not sufficient to do this.

- **Be aware of the cognitive biases that lead to an over-optimistic view of what "new" or "technology-related" approaches will deliver.** The evaluations of MAVC (Yaron and Luttrell, 2018) and Amplify (IPE Triple Line, 2019) provide good examples. The synthesis of evaluations by the Global Facility for Disaster Reduction and Recovery (GFDRR) found that the lack of readiness or capacity to use some of the technologies piloted threatened the success of the program (ICF International, 2016). A review of Sida Challenge Funds also recognizes the danger of being seduced by "newness" and concludes that "… the cost-effectiveness of the pro-poor solution is more important than being 'new'" (IPE Triple Line, 2019 p67). Where new technologies are a relevant focus, Challenge Funds should allow appropriate time for adaptation and consideration of local perspectives and alternatives, and for building links with necessary stakeholders (Robens *et al*., 2019).

- **Think through the type of organizations you want to bid and what this implies for technical assistance and capacity building.** Challenge Funds can be a means to engage small, local innovators who are not on the radar of development funders. However, the costs of supporting non-traditional bidders are significant (as found by MAVC and Amplify) and can conflict with delivering ambitious outcome targets over a short project lifetime. This is one of the reasons that Climate Innovation Centers in Ghana, Ethiopia and Kenya all increased their focus on scaling in later Challenge rounds. Yet, if there is no strategy to reach small, local innovators, there is a serious risk that Challenge Funding will go to established international non-governmental organizations (INGOs) or businesses. The GCIC found that responses to their early climate Challenge Fund rounds underrepresented women entrepreneurs and rural businesses. To help address this, they ran a roadshow across the country (Yaron *et al*., 2019). However, introducing a Challenge Fund is not a *sufficient* condition to reach these potential bidders and significant non-financial assistance is typically required to secure good bids. The experience of MAVC and Amplify also suggests that local innovators need clear incentives and resources to develop tech innovations with community members. For these reasons, there should be a clearly stated logic for investing in these "unusual suspects" *and* a realistic plan as to how the program will support successful projects on their journey to scale.

- **For multi-donor funds, ensure agreement on and a common understanding of the theory of change and role of donors.** The experience of MAVC suggests that it is not sufficient to agree the principles and structure of the Challenge Fund among donors because terms such as "due diligence" and "M&E" can have quite different meanings for organizations with different rules and cultures (Yaron and Luttrell, 2018). Some time needs to be spent agreeing implementation rules at the design stage. GRP experience suggests that this can be "particularly challenging when dealing with government bilateral institutions that may have strict political limitations in terms of location, or groups they are permitted to fund" (GRP, 2016). GRP grantee feedback stated clearly that problems arising from this issue were one of the key difficulties they faced during project implementation (Robens *et al.*, 2018). If funders with quite different requirements and limited flexibility are brought together, it may be necessary to pilot with a small initial Challenge Fund window. Program design should allow sufficient time for piloting and subsequent Challenge Fund rounds.

5.2 Application and selection

Drawing in particular on the review of 10 Sida Challenge Funds, the HIF and MAVC evaluations and the GRP R1 learning review, success factors in this area are:

- **Establish proportionate due diligence,** requiring the donor and fund manager to agree on acceptable risk thresholds which may be differentiated by size of grant or the nature of the funded organization. Large time lags between application and receipt of funding will have a disproportionate effect on small, locally based organizations, discouraging innovation.
- **Use robust selection processes including:**
  - Technical assessments by experts with relevant sectoral and regional experience.
  - Clear, published appraisal criteria.
  - Quality assurance of the appraisals (using peer review, for example).
  - Funders may need to keep the power of veto and selection on a no-objection basis where Challenges are politically sensitive (due to their focus area or the activities of potential applicants).
- **Use accessible guidelines and a staged application process to lower the cost of bidding by local organizations.** The HLPW review suggests asking "… for increasing amounts of detail as applicants get shortlisted" (R4D, 2017 p28). The Sida review finds that "The majority of Challenge Funds use multi-stage assessment processes with early screening stages to exclude ineligible applications and those that do not meet minimum

quality standards. This can significantly improve the efficiency of appraisal by reducing the volume of applications that require full appraisal. Light-touch initial screening of applications is particularly important for new global funds and those with a broad focus that can attract very large numbers of applications, particularly when targeting organizations and initiatives that are underfunded. The early screening stage is commonly followed by technical assessments by experts with relevant sectoral and/or regional experience, following published appraisal criteria. Best practice selection processes are supported by clear appraisal guidelines and mechanisms to ensure consistency of judgments such as appraisal criteria scorecards and quality assurance or peer review processes." (IPE Triple Line, 2018, p52). Feedback from GRP grantees suggested that they found the application design to be helpful, particularly where technical support was given (Robens *et al.*, 2018; 2019).

- **A light-touch first round approach helps smaller organizations to bid but it is not sufficient to overcome absence of capacity**. MAVC staff understood the importance of local context and invested significant in-country resources into brokering bids from "unusual suspects"—but only achieved occasional success as these were local early-stage organizations operating in difficult environments (e.g. townships in South Africa – Yaron *et al.*, 2018). IDEO.org, who ran Amplify, had much less experience with local development context and stopped using country managers before Challenge 4, which GRP supported. The IPE Triple Line evaluation found that "Though Amplify aimed to work with grassroots organizations and foster solution sustainability through those organizations, most selected participants did not fit this description. Amplify was ill-prepared to meet the needs of grassroots organizations and there was insignificant adaptation of the program to meet the needs of target participants" (IPE Triple Line, 2019, p35).
- **Ensure that the application and review process encourages collaborations that take local context and national priorities into account.** The most successful GRP projects have involved international collaborations with strong local partners building on a good knowledge of local context and national priorities (e.g. MetaMeta and Seacology). The GRP regional workshop approach helped this to occur and has been recognized as an example of good practice (R4D, 2017). In contrast, innovation platforms (such as those used by the Amplify program)—while facilitating international high-level technical input to projects—can struggle to prioritize local context. This can lead to poor initial project design that is difficult to put right later. The evaluation finding that "Amplify does not provide a new model for tackling pressing development challenges" (IPE Triple Line & A2B Labs, 2019) partly reflects this. The effectiveness of the MIT Climate CoLab platform has not been evaluated. However, there are important differences to the Amplify approach that may influence outcomes. First, contest prizes are limited to US$10,000, with the aim of building capacity to take ideas forward rather than supporting field implementation. Second, contest webs are built to combine multiple previous ideas to create more complex solutions (Malone *et al*., 2017).
- **Provide unsuccessful applicants with constructive feedback.** The review of the 10 Sida-funded Challenges finds that "…bespoke constructive feedback on unsuccessful applications is highly appreciated and provides the opportunity for applicant organizations to consider reapplying to subsequent rounds or to prepare better applications for funding from other sources." (IPE Triple Line, 2018, p52).

5.3 Effective implementation

Below we provide some recommendations based on learning from the literature reviewed:

- **Plan for intensive rather than light-touch grantee engagement**, particularly if grantees are at an early stage in the innovation process. GRP grantees reported that support offered them to develop both innovations and concepts was one of the most successful elements of the GRP approach (Robens *et al*., 2018). We note that the experience from the 10 Sida Challenge Funds is that in general the more intensively managed funds, with a

more hands-on approach, had a greater degree of success in ensuring sustainable development outcomes.

- **Put in place appropriate results frameworks and measurable milestones**. This helps to establish a clear and common understanding of what the project is expected to deliver and may also form a basis for the release of payments. The requirement for evidence on outcomes should reflect where grantees are on the innovation pathway. Nesta set this out for seven stages in Annex 2 below. GIF distinguish between three stages (pilot, test & transition, and scale). GRP experience suggests that the timescales for results frameworks need to take operational issues into account (Robens *et al*., 2018). Some guidance on developing indicators at different stages of the innovation pathway is provided by Itad (2016).
- **Challenge Funds can influence the policy and investment environment in certain circumstances, but it requires a strategic approach and investment.** AECF REACT is the example quoted by IPE Triple Line 2018. AECF first conducted detailed analyses of the energy sectors in target countries and subsequently worked closely with renewable energy associations across East and Southern Africa, using convening power to engage with governments on issues such as the simplification of vetting procedures and quality standards, tax and regulatory reform. The Ghana CIC has also invested in building a good relationship with the Ministry of Environment, Science, Technology and Innovation, allowing engagement on policy issues relevant to a number of cleantech Challenge Fund grantees. Other CIC grantees, however, were not able to take advantage of this as they needed to engage with different Ministries such as energy or agriculture (Yaron *et al*. 2019). Challenge Funds should certainly not *assume* this broader policy influence will result from using a Challenge Fund structure. A less ambitious approach is to encourage grantees to engage with policy makers. Evidence from the Water Window, a Challenge with a relatively narrow focus, found that all grantees had engaged with key policy stakeholders, even where it was not a main focus of the project (Robens *et al.,* 2019).
- **Challenge Funds that aim to address specific areas of gender inequality and inclusion should incentivize and support grantees to do this.** For example, DFID Ethiopia set the Ethiopia Climate Innovation Center (ECIC) a target to improve the proportion of women-run businesses supported by the ECIC Challenge Fund. The ECIC responded by recruiting a gender officer, and undertook gender analysis to identify constraints, stakeholders, and opportunities. They then produced a strategy to deliver this, which included: a women's special interest forum; tailoring the CIC knowledge sharing program; and running a high-profile Woman Innovator of the Year award.
- **Invest in robust and long-term evaluations and learn from experience.** While a number of Challenge Funds (including GRP) have recognized that investment in evidence gathering should increase as projects progress along the innovation pathway, there has been limited investment to evaluate outcomes or impacts. This is a resource intensive activity and typically requires post-project assessment, given that resilience capacities are longer-term intermediate outcomes. This is true for large, long-running Challenge Funds such as GFDRR and the AECF as well as much smaller Challenge Funds such as GRP and HIF. There is a wider need to design in robust impact evaluations (randomized control trials or other experimental designs) to development programming—not simply for Challenge Funds—but the short duration of Challenge Fund windows can make this particularly difficult for project implementers facing short delivery timelines. Scaling and translating findings into policy is challenging, but Challenges Funds (such as GRP) are well placed to do this once these impact evaluations have been performed.
- **Ensure an open, transparent and productive relationship between the grantee and fund manager**. It helps for grantees to have one point of contact, ideally over the entire duration of the funding cycle. The grantees that were successful in the GRP challenges had a consistent and dedicated program officer who understood the project well.
- **Provide appropriate technical assistance and capacity building**. This varies by innovation stage of the interventions, the maturity of funded organizations, and the local capacity available. Non-financial assistance that is tailored to address specific grantee

capacity gaps can add considerable value (as reported by the evaluation of the Humanitarian Innovation Fund).[7]

- **Good risk and performance management**. Intensive fund manager engagement with technical assistance lowers risk.

We note that Challenge Fund implementation success factors above also apply to small grantee contracting where a Challenge Fund structure is not used. The difference is in the *extent* to which the fund manager has control over project design and implementation: Challenge Funds imply more risk as projects are designed by grantees rather than funders and, potentially, a fund manager has to manage grantees that are not the familiar development or business organizations active in the sector (although it has proved much more difficult than expected to use Challenge Funds to grant to "unusual suspects").

5.4 Scaling and sustainability

There is a separate literature on how best to support the innovation process from early stage to scale, in which Challenge Funds often play an important role. Although the broader literature is beyond the scope of this case study, we draw on two aspects that are important for GRP work in this area: where Challenge Funds fit in to delivering sustainable solutions, and what type of evidence is needed at each stage of innovation. Nesta—the UK foundation for innovation—has some useful material to help with this. A recent DFID-funded Learning Review of Global Climate Innovation Centers provides climate-specific findings in this area (Yaron *et al.*, 2019).

The Nesta (2017) innovation flow chart reproduced in Annex 2 has some relevance for GRP. Challenge Funds relate to early stages in the innovation cycle. This may seem obvious for the GRP "Seed Funding" Challenge, but even GRP "Scaling grants" relate to "making the case" or "delivering and implementing" rather than subsequent stages. This is important for two reasons:

- GRP was right to encourage "Water Window scaling grantees" to use cost–benefit analysis, though it would have been better to provide evidence from control groups as well. Designing this requirement into any future Challenge Fund and building in time and resources for grantees to do this would certainly be good practice.
- Challenge Funds over an 18–36-month period are appropriate to move to the next innovation level but successful grantees need a broader framework to progress to impact at scale. Most early-stage innovations fail and the logic behind the incubation and acceleration model is to accompany successful innovators until they move beyond what is described as the "valley of death" (World Bank, 2017). There is a real danger of losing the value created by successful grants if no exit or transition plan is in place beyond the Challenge Fund. A number of reviews (e.g. of the GFDRR, GCIC and of Sida-supported Challenge Funds) as well as the conclusions of R4D (2017), have identified a lack of longer-term planning and engagement as a threat to scaling.

This also relates to getting value for money from Challenge Funds. We have noted that it requires a significant investment for Challenge Funds to find innovative solutions from "unusual suspects". Technical support alongside grants helps within the project lifetime but is a waste of money if successful innovations do not progress beyond the project life.

This type of reasoning leads the HLPW review to recommend that Challenge Funds:

1. **Embrace multi-year timeframes and staged funding opportunities**

This being noted, the experience of AECF and the GCIC as well as UK cleantech Challenge Funds, suggest a 5–7-year time horizon for successful cleantech businesses to move from Challenge Fund incubation grants to venture capital investment. For commercial businesses, the funder needs to go beyond Challenge Funds and bring in different types of financial instruments

[7] Lawday *et al*. (2017), The Humanitarian Innovation Fund External Evaluation, IPE Triple Line, UK

(such as convertible loans) to support successful early-stage businesses to move toward investor readiness and scale.

The same logic does not apply for non-commercial providers of public goods[8] (although GIF have shown that some of the same instruments can be used) but it is critical to put in place a *process for sustainable scaling*. This will involve demonstrating to government that the intervention provides a cost-effective means of delivering public policy objectives (e.g. resilience, health or education benefits). This may require funding to rigorously evaluate project outcomes and brokering to communicate new approaches with government. GIF has played a pioneering role in explicitly supporting Challenge Fund grantees to build an evidence-based case to support scaling (often combining grant funding for academic research with repayable funding to Challenge Fund winners). GRP has taken on the policy influencing task to build on Challenge Fund work.

2. The right scaling model depends on context

Some Challenge Funds working with businesses in very specific areas (such AECF REACT) have been able to use the same model of micro solar photovoltaic off-grid supply across countries. This is unusual and the route to scale for most Challenge Fund projects is highly dependent on sub-national and national context. For example, many entrepreneurs with successful early-stage businesses in Ghana, Ethiopia, and Kenya saw successful scaling as becoming a medium-sized, family-controlled company (complicating the route to scale through raising venture capital). In Ghana, the very different social and economic context between the north and south meant some successful CIC-funded businesses chose to scale only in their part of the country (Yaron *et al*., 2019). The tendency to over-simplify the route to scale for development innovations leads Walji (2016)[9] to argue that "scaling-up what works in complex contexts is less about scaling solutions and more to do with scaling the approach and process by which you develop solutions. It's not about developing blueprint solutions based on expert knowledge, but about using a process that is end-user-centric, disciplined, data-driven, and therefore gets us closer to better solutions" p194.

[8] Many NGO projects provide *private goods* that have broader social benefits e.g. microfinance, sustainable agriculture or off-grid electricity. Commercial viability is an extremely important objective for these projects to aim for (even if some public funding is required as part of the overall funding package to reach particular groups, for example).

[9] Aleem Walji (2016), Why innovation seldom scales, and what to do about it, in INNOVATION FOR INTERNATIONAL DEVELOPMENT NAVIGATING THE PATHS AND PITFALLS Ben Ramalingam and Kirsten Bound, NESTA https://media.nesta.org.uk/documents/innovation_in_international_development_v7.pdf

6. Recommendations for resilience-focused Challenges

The evidence presented above suggests that the Challenge Fund model is largely neutral regarding building resilience—what matters most is how a Challenge is designed and used. The findings set out for each stage apply both to resilience and non-resilience-focused Challenge Funds. Nonetheless, Challenge Funds should recognize and address specific "difficult characteristics" of resilience building. These issues are discussed below in the context of the four Challenge Fund stages (introduced in Section 4) although we recognize that some issues apply to multiple stages. We also present key recommendations based on the findings in the previous sections.

6.1 Design recommendations

Lesson: Establish the foundations of the Challenge before implementing activities to build resilience, including a working definition or principles of resilience, and clear aims and objectives of the Challenge and its implementation activities. GRP interventions have to take particular account of local context and complexity. This will help to understand where single interventions address a critical gap (with other necessary conditions to build resilience in place) and where a package of interventions is required. GRP will need to continue strengthening its theory of change, ensure a common understanding of resilience across partners and invest in the ability to consistently compare expected impacts from diverse projects.

Recommendation 1: Set focused objectives. Identify a working definition or principles of resilience, and clear aims and objectives of the Challenge and its implementation activities. Action points:

- A1: Develop a working definition or principles of resilience with partners.
- A2: Clarify and communicate what this definition/these principles mean at different scales and for different stakeholders.
- A3: Design, manage and implement activities according to the working definition/principles.
- A4: Work collaboratively with partners—new and ongoing—to maintain a shared understanding of resilience as knowledge and understanding develops throughout the course of the Challenge.
- A5: Use the principles to inform operational guidance and documents for involved stakeholders to allow comparability and coherent progress reporting.
- A6: Incentivize and support grantees to address specific areas of gender inequality and inclusion.
- A7: The Challenge Fund should address a specific resilience problem where there is no tested solution available.

Recommendation 2: Establish sound foundations. Ensure that the strategy, systems, structures, and processes are in place with sufficient staff and strategic partner engagement to support and implement activities before launching a Challenge:

- A1: Work collaboratively with involved partners to establish foundations drawing on key lessons from existing challenges and other relevant programs.
- A2: Build in touch points to reflect on the functioning of the program as it evolves and as more partners are engaged.
- A3: Allocate time to effectively design implementation activities, thinking through how to systematically measure their progress in building resilience and how they will support and interact with other activities under the program.
- A4: Communicate the challenge strategy and implementation approach clearly both at the program start and as it evolves.

- A5: Ensure agreement on and a common understanding of the role of donors, Challenge manager and grantees.
- A6: Embrace multi-year timeframes and staged funding opportunities.

6.2 Selection recommendations

Lesson: GRP looks to be following good practice by using proportionate due diligence and robust selection processes but also uses accessible guidelines and a staged application process to lower the cost of bidding by local organizations. The GRP processes also reflect good practice by encouraging collaborations that take local context, partnerships, and national priorities into account.

Recommendation 3: Use robust selection processes with accessible guidelines and a staged application process to lower the cost of bidding by local organizations. Action points:

- A1: Think through the type of organizations you want to bid and what this implies for technical assistance and capacity building.
- A2: Ensure that the application and review process encourages collaborations that take local context and national priorities into account.
- A3: A light-touch first round approach helps smaller organizations to bid but it is not sufficient to overcome absence of capacity, which requires additional mentoring.
- A4: Establish proportionate due diligence, requiring the donor and fund manager to agree on acceptable risk thresholds which may be differentiated by size of grant or the nature of the funded organization.
- A5: Provide unsuccessful applicants with constructive feedback.

Recommendation 4: Engage effective and experienced partners who are committed to working collaboratively towards program aims and across program activities. Action points:

- A1: Engage strategic partners for clear actions toward program or activity aims; aim for partners across the disciplines, scales, and locations necessary to meet the aims of the program or activity.
- A2: Create time and space for partners to build relationships and to strategize on how to work together to deliver aims effectively.
- A3: Develop working groups that respond to partner interests and encourage them to set clear timelines for inputs to keep momentum going.
- A4: Arrange convening and sharing opportunities to allow interaction and collaboration across different working groups and program activities.
- A5: Make the need for and role of partners explicit in any program or project level theory of change.

6.3 Implementation recommendations

Lesson: Resilience programming aims to tackle unpredictable shocks, which has implications for Challenge implementation and management. Good practice principles for Challenge Funds in general do apply when the focus is building resilience. Ensure that open, transparent, and productive relationships exist between grantees and Challenge manager and there is adequate technical assistance and capacity building. A Challenge Fund focused on resilience should enable flexibility and adaptiveness, balancing monitoring grantee performance for learning with holding them to account. This places additional demands on Challenge Management and requires efficient and flexible systems, as well as high levels of engagement using staff that understand the development context and MEL systems that encourage rapid learning.

Recommendation 5: Timing and flexibility: Build flexibility into the technical approach and management processes of the program and associated implementation activities. Action points:

- A1: Ensure funding, management and implementing partners have a shared agreement and processes for adapting implementation activities before implementation begins; this should ensure that workplan, funding and reporting can all be efficiently adapted in line with one another.
- A2: Understand the context of implementation and be aware of the climatic, political or other events that may arise and affect the program; track this through a risk register that is regularly updated.
- A3: Build in flexibility to the implementation activity by employing an adaptive management approach that specifically seeks to identify and respond to learning through the course of the program or activity; encourage stakeholders are engaged to develop this approach together to ensure shared understanding and buy-in.
- A4: Plan for intensive rather than light-touch grantee engagement, particularly if grantees are at an early stage in the innovation process.
- A5: Put in place appropriate results frameworks and measurable milestones to establish a clear understanding of what the project is expected to deliver and enable performance-based payments.
- A6: Ensure an open, transparent, and productive relationship between the grantee and fund manager. Combining appropriate technical assistance and capacity building with good risk and performance management lowers risk.

Recommendation 6. Learning through innovation. Develop systems to allow for learning and testing of innovations for resilience building. Action points:

- A1: Draw together existing available evidence on tested approaches to understand what approaches to building resilience work, which mechanisms are particularly effective, and what can be learned from others.
- A2: Decide on the pace of testing necessary for effective learning about what is working and what is not; this is likely to be dependent on the particular activity being implemented.
- A3: Develop a learning agenda and timeline collaboratively with engaged partners that determines both how to generate and how to use learning.
- A4: Design in longer-term impact evaluations commensurate with the scale of the intervention.

6.4 Scaling recommendations

Lesson: The characteristics of resilience building mean that supporting grantees to move along the innovation pathway toward scale requires a clear strategy. The large majority of GRP projects are likely to be non-commercial and scaling successful projects will involve accessing future public sector funding (potentially supported by international climate or other donor funding). GRP will need to build a comprehensive strategy for scaling and engage partners in this process. There will also need to be sufficient program lifetime to implement it.

Recommendation 7: Be clear and explicit about scaling, including what it means, what is possible, what the options are, and what the learning process is. Action points:

- A1: Draw from learning activities and other scaling programs to understand scaling approaches.
- A2: Develop a stepwise roadmap for scaling, and identifying how enablers will be put in place and challenges addressed.
- A3: Determine how scaling can best be supported, including from partners engaged in the program, and develop a clear operational strategy for this.
- A4: Have a clear MEL framework in place to measure progress/success of scaling activities and to ensure that impactful solutions are scaled.
- A5: Consider linking policy activities with on-the ground project work to maximize leverage across geographies.
- A6: Adopt a strategic approach to ensure Challenge Funds can influence the policy and investment environment.

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Annex 1: Resilience Challenge Funds

African Enterprise Challenge Fund

The AECF was launched in 2007 at the World Economic Forum Africa, and became operational the following year. It began with start-up capital from DFID and the Dutch Government, the Consultative Group to Assist the Poor (CGAP) and the International Fund for Agricultural Development (IFAD), and now also leverages funding from Global Affairs Canada, the Danish Ministry of Foreign Affairs, the Swedish Government, and the Australian Department of Foreign Affairs and Trade (AECF 2019).

It provides support to the private sector across sub-Saharan Africa, primarily investing in agribusiness and renewable energy, and the systems needed to support the development of both sectors. The AGRI fund supports businesses in developing new activities, as well as investing in existing value chains, where they meet the requirement that people living on less than $2 a day will benefit. AECF aims to develop the low-cost communication and technological infrastructure necessary to these businesses, in addition to promoting financial inclusion and mobile finance options. AECF invests in clean energy, particularly electricity, from household and community level to regional and national networks (AECF 2019).

AECF selects businesses and disburses grants of $100,000 to $1.5 million through a series of competition windows targeting a specific economic sector, country or transnational development corridor (AECF 2017). The main five windows are Agribusiness Africa, Renewable Energy and Adaptation to Climate Technologies, sub-Saharan Africa, Post-Conflict, and CONNECT, which supports grantees to raise capital (IPE Triple Line 2018). Since the first competition was launched in 2008, AECF has conducted 27 competitions, and approved funding to 266 business projects, disbursing $365 million (AECF 2019).

https://www.aecfafrica.org/index.php/

Amplify

Amplify was a 6-year Challenge Fund, funded by DFID and managed in partnership with IDEO. Its purpose was to find an alternative to competitive Challenge Fund models, through a focus developing early-stage ideas from small community-based grantees who do not usually have access to funding from large international donors. In addition, the application process was designed to be collaborative, with potential grantees able to view, contribute to, and engage with other proposals (DFID 2017).

Amplify launched eight Challenges between 2013 and 2019, each with a specific sectoral focus, including urban gender-based violence, urban resilience, early childhood and refugee education, agricultural food waste, youth employment, disability inclusion, and sexual and reproductive health services for women and girls in humanitarian contexts. Successful grantees operated in a broad range of countries across sub-Saharan Africa, Central and South Asia, and the Middle East (IDEO 2019).

Five to eight grantees were selected for each Challenge, receiving a grant of £100,000 and 18 months of technical support and training, with £10.1 million disbursed over the life of the fund. Final evaluations found that a focus on community-based organizations was effective in promoting local ownership, and ensuring that programs were locally and culturally appropriate, increasing grantees' credibility and effectiveness (IDE Triple Line & A2B Labs 2018).

https://www.ideo.org/programs/amplify

Challenge Program for Water and Food (CPWF) Innovation Fund

The CPWF Innovation Fund operated between 2011 and 2014 as a research for development program focused on five river basins: Ganges, Limpopo, Mekong, Nile, and Volta (CGIAR 2019). The Innovation Fund sought to fund applications which promoted the uptake of CPWF research through building the capacity of key stakeholders in relevant sectors, and through providing funds to innovative projects (CGIAR, 2011a).

The eight funded projects were related to river basin and water management, livelihoods for populations in river basin areas, farmer innovation, community participation in decision-making, transnational hydropower development, and provincial government planning for sustainable water usage. Successful applicants received grants of $7,000 to $20,000 for projects lasting less than one year, with more than $165,000 disbursed in total (CGIAR, 2011b).

https://waterandfood.org/innovation-fund/

Climate Innovation Centers

Climate Innovation Centers form part of the World Bank's infoDev Climate Tech Program, which seeks to commercialize and scale innovative private sector solutions to climate problems (http://www.infodev.org/sites/default/files/ctp_brochure-2_0.pdf). A network of CICs in Vietnam, the Caribbean, and Africa draw on a business incubator model to select and support SMEs demonstrating an innovation in climate adaptation or contribution to environmental protection. The objectives and implementation approach of each CIC is adapted to the country context. CICs mentioned in this case study are:

Ethiopia CIC

ECIC provided early-stage financing, business advisory services and market information to SMEs within five main sectors: sustainable agribusiness, biofuels and biomass, transportation technologies, micro-hydropower and energy efficiency, and renewable energy. Individual grants range from $25,000 to $37,500, sometimes using a competition model, for instance around proof of concept or women entrepreneurs (ECIC, 2016).

https://ethiopiacic.org/

Ghana CIC

GCIC was established in 2016 and focuses on businesses within five sectors of Ghana's green economy: energy efficiency and renewable energy, solar power, climate-smart agriculture, domestic waste management, and water management and purification. To date, GCIC has supported six cohorts of clients through proof of concept grants, with $513,535 disbursed, and early-stage and growth-stage financing, with $1.36 million raised (GCIC 2019). Funders include infoDev, World Bank Group, the Dutch Ministry for Foreign Affairs, the Danish Embassy, ASHESI, United Nations University, SNV and EY.

http://www.ghanacic.org/

Kenya CIC

The Kenya Climate Innovation Center (KCIC) was the first in the network to be established in 2013, and focuses on businesses in the renewable energy, water management, and agribusiness sectors. Clients are assessed on a rolling basis in terms of their commercial viability and potential environmental and social impacts. KCIC provides both general group services (training and strategy) and customized investment (proof of concept grants and regulatory support) (World Bank Group 2016). $195,000 in early-stage finance has been generated for clients to date. Sponsors include Autodesk Foundation, Danida, DFID, World Bank Group and infoDev (KCIC, 2019).

https://kenyacic.org/

Global Facility for Disaster Reduction and Recovery Challenge Fund

GFDRR's Challenge Fund was established in 2015 in partnership with DFID, with the aim of providing better disaster risk information by bridging the gap between technological innovations and communities in developing countries (GFDRR 2015). The Challenge Fund seeks to develop technological solutions to issues of gender, language barriers, open data access, and gaps in risk communication that accurately reflect the realities and needs of communities on the ground. Grantees have undertaken projects in South and Southeast Asia, sub-Saharan Africa and the South Pacific (GFDRR 2019).

The Challenge Fund has operated four competition rounds, each with a different specific focus: risk modeling, mapping and open source data, multi-hazard risk analysis, financial resilience, and development of an agricultural risk financing tool for southern Africa. GFDRR takes an evidence-led approach to challenge design; development of research and data arising from the first competition round helped determine the theme of the second round.

The first round distributed $1 million to 15 projects, with grants ranging from $20,000 to $150,000. $2,147,500 in funding had been leveraged in total by 2017 (GFDRR 2017). More detailed information on the funding and grants from later rounds was not available at the time of writing.

https://www.gfdrr.org/en/challenge-fund

Global Innovation Fund

GIF was established in 2014 with the broad remit to invest in projects or businesses from any sector within the international development field with the capacity to benefit people living on less than $5 a day. The fund accepts continuous/rolling applications for social change innovations with the capacity to be scaled up, including new technologies, business models, policy practices, technologies or behavioral insights (GIF, 2019).

GIF invests in public and private sector actors, and both for-profit and not-for-profit organizations, largely in sub-Saharan Africa, Asia and Central America. It therefore operates different financing mechanisms, including grants, loans (including convertible debt), and equity investments. For-profit commercial applicants are usually expected to apply for debt or equity investments, unless they can demonstrate significant social good resulting from their innovation (GIF, 2019).

GIF has developed a flexible approach to expected returns, making it well placed to support emergent social entrepreneurs in fragile places, structuring bespoke support, prioritizing impact and aiming for financial viability but with smaller or slower expected margins than market average (DFID 2018). Grants, loans and equity are provided for investments in 3 main categories: pilot (up to £150,000), test and transition (up to £1.5 million), and scaling up (up to £10 million), with the majority of investments in the second groups. To date, more than $45 million has been disbursed. GIF is funded by USAID, DFID, Australia's DFAT, Sweden's Sida and the Omidyar Network (DFID, 2018).

https://globalinnovation.fund/

Global Poverty Action Fund

GPAF operated between 2010 and 2014, and has since been subsumed into UK Aid Direct (DFID, 2019). The fund focused on supporting activities contributing to poverty reduction and to progress toward the Millennium Development Goals, particularly in the areas of service delivery, empowerment and accountability, and conflict, security and justice (DFID, 2014). Grantees operated in countries across Central and South Asia, sub-Saharan Africa, the South Pacific and the Middle East. Projects covered a wide range of sectors, including environmental conservation, disability, gender empowerment, infant and child nutrition, violence prevention, child rights and protection, education, fishing and forestry, HIV/AIDS, livestock production, reproductive health and female genital mutilation, water and sanitation, community-based microfinance, social enterprise promotion, food security, income generation activities, maternal and child health, and rural livelihoods (Coffey International Development, 2014).

GPAF accepted applications through two different funding windows in each round: a Community Partnership window and an Impact window. The Community Partnership model targeted small UK-based not-for-profit organizations providing tangible benefits to poor communities through livelihoods or household income activities through grants of up to £250,000. Applicants for the Impact window were expected to present initiatives with broader scope, and with the capacity for scaling up. Investments in this category ranged from £250,000 to £4 million, with a requirement that 25% of funding be matched by the organization (DFID, 2014). Full lists of community and impact grantees are available. Total disbursements were projected to be approximately £95 million in the mid-term evaluation (Coffey International Development, 2014).[10]

https://www.gov.uk/guidance/global-poverty-action-fund-gpaf

Global Resilience Partnership Challenge Funds

The Resilience Partnership was launched at the U.S. African Leaders Summit in the summer of 2014. Sponsors include the Rockefeller Foundation, USAID, Sida, Z Zurich Foundation, and DFID. GRP Challenge Funds aim to create an enabling environment for innovations that can then be tested and scaled when ready. It provided grants through two Challenge rounds to consortia of organizations working to strengthen resilience in contexts of vulnerability.

Global Resilience Challenge

GRP's first Challenge Fund targeted grantees that sought to implement or scale up adaptations to chronic shocks or stresses in the Sahel, the Horn of Africa, and in Southeast Asia. Projects focused on a range of issues including technological development, early warning systems, livestock and land management, pastoralists' livelihoods, and climate-smart agriculture. Ten grants of up to $1 million were awarded to winning applications, funded by USAID, with support from the Rockefeller Foundation.

Water Window Challenge

GRP's second challenge focused on flood-related issues with funding from the Z Zurich Foundation. The Water Window awarded grants of up to $1 million for scale projects and up to $250,000 for seed projects. Seed grantees used their investment to develop or pilot innovative projects, while scale grantees aimed for a broader, more strategic impact. The 12 successful projects were implemented from 2017 to 2019 across South and Southeast Asia and in Kenya, covering issues of river basin management, ecosystems-based adaptation, adaptive infrastructure and amphibious housing.

http://www.globalresiliencepartnership.org/challenge/

Humanitarian Innovation Fund

The Humanitarian Innovation Fund was launched in 2011, and is managed by Enhancing Learning and Research for Humanitarian Assistance (ELRHA). HIF operates in three key areas relevant to humanitarian contexts: WASH, gender-based violence, and scaling of humanitarian innovations. Funding rounds, which usually have a narrow focus, seek to identify gaps and challenges in humanitarian policy and practice, and to design innovative approaches or solutions (Lawday *et al*., 2017). Small grants from less than $10,000 to $250,000 are awarded for short-term research and/or development projects. Successful projects in a range of countries from Eastern Europe, the Caribbean, Central and South America, the Middle East, Central, South and Southeast Asia, and the South Pacific (ELRHA 2019).

The gender-based violence window concentrates on addressing programming challenges, the most recent one focused on effective monitoring and evaluation. The WASH pavilion seeks technological or design solutions to specific WASH problems that arise in disaster and emergency situations. Calls have focused on the issue of latrine lighting and of safe medical waste

[10] A final evaluation report was not available

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incineration in humanitarian contexts. DFID has been HIF's main funder, with other support from the Canadian International Development Agency, the Swedish Ministry of Foreign Affairs, Sida, Netherlands Ministry of Foreign Affairs and most recently ECHO.

https://www.elrha.org/programme/humanitarian-innovation-fund/

Making All Voices Count

MAVC operated between 2013 and 2017, and sought to draw on innovation and new technologies to support effective, accountable governance. The main objective was to generate research-based evidence and practice-based learning in order to bring about change in the short term, and also to help ensure that future governance programs and initiatives seeking to capitalize on the transformative potential of innovation and technology would be more informed, inclusive and impactful (Edwards *et al*., 2018).

Focusing on 13 countries in Africa and Asia, the program was implemented by a consortium comprising Hivos, the Institute of Development Studies (IDS), and Ushahidi. MAVC was funded by DFID, Sida, USAID, and the Omidyar Network. MAVC operated through open calls and global competitions to invite proposals harnessing new technologies to "fix the broken feedback loop between citizens and governments"' (Edwards *et al*., 2018 p7). Grants were offered to support new ideas that amplified the voices of citizens, and enabled governments to listen and respond (Edwards *et al*., 2018). £11.67 million was disbursed in total through 178 grants: 72 to innovation projects, 38 to scaling projects, 7 to tech hubs, and 61 to research projects.

https://www.makingallvoicescount.org/

MIT Climate CoLab

First piloted in 2008, the MIT Climate CoLab established to promote a collaborative approach to developing solutions to climate change problems. Its application process is designed to be open access; a wide range of stakeholders and experts can view, evaluate, contribute to, and learn from other proposals while developing and submitting their own. Applications are accepted from a diverse range of individuals, private sector actors and project teams. The overarching aim of operating in this way is to develop knowledge and understanding of how contests run in this way might form a replicable tool for collaborative, multi-stakeholder approaches to systemic or societal problems (Malone *et al*., 2017).

At the time of writing, 110 contests had been held, each themed around narrow climate change problems including renewable energy, carbon pricing, the circular economy, clean, climate adaptive industry, and sustainable waste management. Two main selection mechanisms are used: a panel of international experts, graduate students and young professionals, and a popular choice vote awarded through online voting. Grants are awarded in the form of prizes of $10,000, and projects have global reach, without a particular regional focus. Funders include the National Science Foundation (USA), the V. Kann Rasmussen Foundation, MIT Sloan Management, MIT Energy Initiative, and the corporate sponsors of the MIT Center for Collective Intelligence (Climate CoLab, 2019).

https://www.climatecolab.org/

SIDA Demo Environment Programme

The Demo Environment Programme funds international technology transfers involving buyers in 14 countries across sub-Saharan Africa, Asia, Latin America, the Western Balkans and Eastern Europe. The program's emphasis is on cleantech products, systems, processes, and services which offers clear advantages over competing solutions in the following focus areas: climate change adaptation and mitigation, ecosystem services, renewable energy, water and sanitation, and urban development (Sida, 2019).

The Demo Environment Programme operates a competitive application process with calls under two main windows. Planning grants are awarded to help entrepreneurs explore new markets and

research their technology's impact on the environment and poverty reduction. In demonstration project grants, local actors receive financing to help them import technologies that offer solutions to local environmental challenges. The seller in a partnership can apply for a planning grant, and the buyer can apply for a demonstration project grant. Planning grants are awarded of up to $40,000, and demonstration grants of $50,000 to $200,000. By 2018, $4.9 million had been disbursed in total (IDE Triple Line 2018). The Demo Environment Programme is financed by Sida and has been managed by The Swedish Agency for Economic and Regional Growth since 2007 (Sida, 2019).

https://tillvaxtverket.se/english/demo-environment-programme

Sida Sustainability and Resilience

Sida's Sustainability and Resilience fund aims to meet the challenges of environmental and climate change by strengthening research and institutional capacity in low and lower middle income countries. The fund is administered by the Swedish Research Council and in 2018 invited research proposals from teams of up to six higher education researchers. In order to foster links between Swedish higher education institutions and those in the global South, the call required at least one member of the team to be a researcher from a low or middle income country. Funding was provided jointly by the Swedish Research Council and Sida through the Swedish Government's development aid funds, and by Formas' and Forte's research appropriations (Swedish Research Council, 2018a).

The Swedish Research Council made the call relatively open; research within any scientific area of study was eligible, so long as it related to poverty reduction and sustainable development in a low-income country. Researchers had the freedom to determine their own concept, methodology and implementation model in order to solve their identified research problem within the three years of the fund's operation (Swedish Research Council 2018a). Fifteen grantees were selected in 2018, receiving an average grant of $180,000 for projects in sub-Saharan Africa, South and Southeast Asia and South America. $8.1 million is to be made available over the fund's lifespan, 2019 – 2021. Successful projects will conduct research into waste management, governance of climate responses, climate-smart agriculture and aquaculture, the health impacts of climate change, risk and resource management, and monitoring of weather and pollution trends (Swedish Research Council, 2018b).

https://www.vr.se/english/calls-and-decisions/grant-decisions/decisions/2018-12-04-

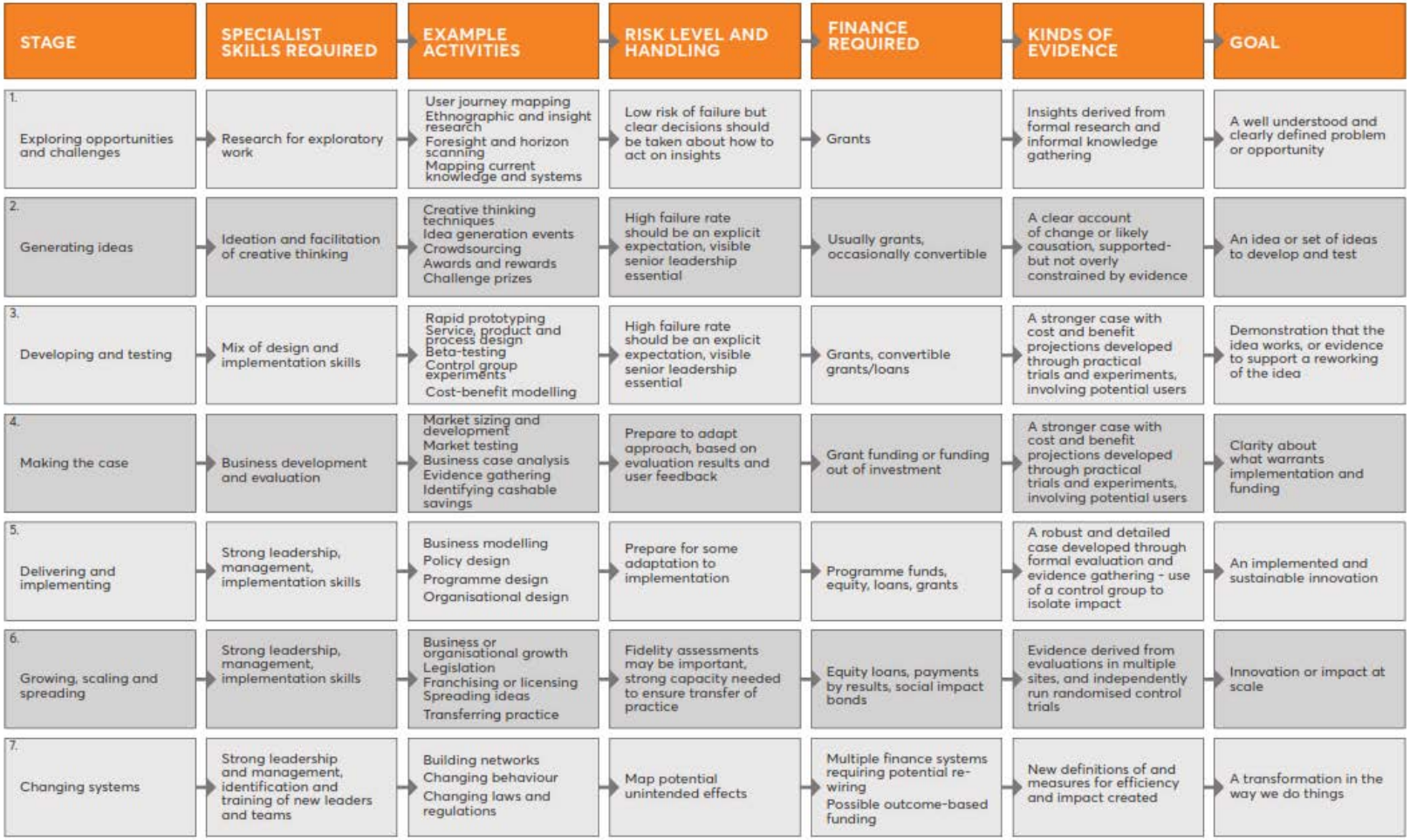
WASH for Life

In 2011, the Bill & Melinda Gates Foundation's Water, Sanitation, and Hygiene (WASH) team partnered with USAID's Development Innovation Ventures (DIV) to establish WASH for Life, a $17 million Challenge Fund focused on innovative water, sanitation, and hygiene projects with the potential to scale (Null *et al*., 2018). WASH for Life sought in particular to fund interventions addressing issues in the sanitation and hygiene sectors and targeting beneficiaries earning under $2 a day (USAID 2013).

WASH for Life utilized a series of open competition windows to generate applications that would identify, test, and transition to scale promising approaches to achieving cost-effective, sustainable, and scalable water, sanitation, and health services in developing countries (USAID 2013). Successful grantees were awarded funding of between $200,000 and $5 million according to a tiered, evidence-based funding model to test ideas, gather evidence, find failures quickly and cheaply, and continue to support only business models that have the potential to be financially self-sustaining (Null *et al*., 2018). Applications were accepted for projects in any country where USAID was active, with a particular focus on Bangladesh, Ethiopia, Ghana, Haiti, India, Kenya, and Nigeria (USAID, 2013).

https://2012-2017.usaid.gov/div/portfolio/wash-life

Annex 2: The Nesta innovation flowchart



STAGE	SPECIALIST SKILLS REQUIRED	EXAMPLE ACTIVITIES	RISK LEVEL AND HANDLING	FINANCE REQUIRED	KINDS OF EVIDENCE	GOAL
1. Exploring opportunities and challenges	Research for exploratory work	User journey mapping Ethnographic and insight research Foresight and horizon scanning Mapping current knowledge and systems	Low risk of failure but clear decisions should be taken about how to act on insights	Grants	Insights derived from formal research and informal knowledge gathering	A well understood and clearly defined problem or opportunity
2. Generating ideas	Ideation and facilitation of creative thinking	Creative thinking techniques Idea generation events Crowdsourcing Awards and rewards Challenge prizes	High failure rate should be an explicit expectation, visible senior leadership essential	Usually grants, occasionally convertible	A clear account of change or likely causation, supported- but not overly constrained by evidence	An idea or set of ideas to develop and test
3. Developing and testing	Mix of design and implementation skills	Rapid prototyping Service, product and process design Beta-testing Control group experiments Cost-benefit modelling	High failure rate should be an explicit expectation, visible senior leadership essential	Grants, convertible grants/loans	A stronger case with cost and benefit projections developed through practical trials and experiments, involving potential users	Demonstration that the idea works, or evidence to support a reworking of the idea
4. Making the case	Business development and evaluation	Market sizing and development Market testing Business case analysis Evidence gathering Identifying cashable savings	Prepare to adapt approach, based on evaluation results and user feedback	Grant funding or funding out of investment	A stronger case with cost and benefit projections developed through practical trials and experiments, involving potential users	Clarity about what warrants implementation and funding
5. Delivering and implementing	Strong leadership, management, implementation skills	Business modelling Policy design Programme design Organisational design	Prepare for some adaptation to implementation	Programme funds, equity, loans, grants	A robust and detailed case developed through formal evaluation and evidence gathering - use of a control group to isolate impact	An implemented and sustainable innovation
6. Growing, scaling and spreading	Strong leadership, management, implementation skills	Business or organisational growth Legislation Franchising or licensing Spreading ideas Transferring practice	Fidelity assessments may be important, strong capacity needed to ensure transfer of practice	Equity loans, payments by results, social impact bonds	Evidence derived from evaluations in multiple sites, and independently run randomised control trials	Innovation or impact at scale
7. Changing systems	Strong leadership and management, identification and training of new leaders and teams	Building networks Changing behaviour Changing laws and regulations	Map potential unintended effects	Multiple finance systems requiring potential re-wiring Possible outcome-based funding	New definitions of and measures for efficiency and impact created	A transformation in the way we do things

Source: https://www.nesta.org.uk/toolkit/innovation-flowchart/

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