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## **Who wins? Lessons on the use of innovation prizes to achieve social change for the benefit of the very poorest**

Prize giving has grown exponentially, with agencies like the World Bank and USAID using them to help solve critical development challenges in low-income countries. This paper draws on findings from a DFID programme that has been experimenting with a suite of global prizes, including in Ghana, Kenya and Nepal. The paper reflects on prizes used to deliver social change: where they work, why, and for whom. We find that development impact can be enhanced when prizes are not implemented alone. Complementary support is often necessary to help innovators participate, overcome barriers and support innovation that leads to social change.

(Abstract: 99 words)

Keywords: prizes, evaluation, innovation, international development, energy, water, climate change

## Introduction

There is renewed interest in finding innovative ways to solve the challenges facing humanity, as we seek to attain the Sustainable Development Goals (SDGs).<sup>1</sup> The use of prizes has grown exponentially in recent years. Agencies like the World Bank and USAID have found that prizes can help drive innovation to solve critical development challenges, and within a mixed portfolio, have the potential to make advancements in leaps rather than increments. One particular form, inducement prizes,<sup>2</sup> offers a way to incentivise innovation. Yet, such prizes are still relatively rare in demonstrating how innovation leads to sustained social and behaviour change (e.g. climate information technology that helps smallholder farmers *change* their farming practices). The conventional space for most prizes is much earlier in the cycle of innovation: broadening the diversity of solvers, expanding the plethora of ideas, and finding specific solutions to (often) technological challenges. This paper draws on findings from Ideas to Impact,<sup>3</sup> a DFID-supported programme that has been experimenting with a suite of global prizes, as well as country-specific prizes in Ghana, Kenya and Nepal. The aim of these prizes is to drive innovation so that it contributes to climate change adaptation, and improves access to energy, water supply and sanitation amongst the very poorest.

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<sup>1</sup> The 17 SDGs were adopted by all member states of the United Nations in 2015, and provide a shared agenda to end poverty, fight inequality and address the urgency of climate change.

Source: <https://sustainabledevelopment.un.org/>

<sup>2</sup> An inducement prize is defined for the purpose of this paper as, “a financial reward, or sometimes other assistance, that is given to whoever can first or most effectively meets a predefined challenge” (adapted from Ballantyne 2014). This type of prize incentivises innovation rather than rewards past achievement (the latter commonly referred to as a recognition prize).

<sup>3</sup> <http://www.ideastoimpact.net/>

We reflect on the use of prizes to deliver social benefits. The focus is on addressing a gap in the literature in the use of prizes in low-income countries (LICs), (Roberts *et al.* 2019), where innovation systems tend to be fragile and less well-established. Based on seven single and multi-stage prizes, we find that prizes that aim to go beyond innovation *per se* (i.e., to contribute to development outcomes), tend to work better when: (1) close attention is paid to the enabling environment; (2) participant feedback supports regular adaptation to context; (3) inclusion/exclusion is carefully considered in resource-poor contexts; and, (4) there is a conscious efforts to re-balance the burden of risk. Based on evidence from evaluations and follow-up reviews of seven innovation prizes,<sup>4</sup> we confirm the benefits of multi-stage prizes to address these issues. We also suggest limits to this approach and argue for prizes to be used alongside other forms of support (i.e., solver and post-award, as well as embedding the prize modality within a larger project or programme).

## **The rise of prizes for development**

### ***Using innovation prizes for social and environmental change***

Using prizes to stimulate innovation has grown exponentially in recent years, although not always specifically to advance social and environmental change, and with a particular gap in their use to support the very poorest. McKinsey (2009: 17) identify a particular growth in inducement prizes from 1991 onwards, with a renewed emphasis on problem-solving rather than recognising prior achievement. This builds on a long history of famous prizes used to stimulate innovation, from the Longitude Prize in 1714

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<sup>4</sup> Brown (2017), Brown (2020), Brown *et al.* (forthcoming), Gould *et al.* (2019), Gould *et al.* (2020), Stott (2020), Stott *et al.* (2019) and Stott *et al.* (2020).

that solved how to determine longitude at sea; to Napoleon's Food Preservation Prize in 1795, which devised a method still in use today for canned foods; the Orteig Prize for the first non-stop flight between New York and Paris in 1919; and more recently, the Ansari XPRIZE awarded in 2004 that helped spur the development of the private spaceflight industry. In 2008, Brunt *et al.* examined a dataset of awards offered by the Royal Agricultural Society of England from 1839 to 1939, and concluded that prizes are both a powerful tool for encouraging competition *and* a particularly effective way to induce innovation. Indeed, much is made of this latter benefit, and specifically the difference between 'inducement prizes' (those that are designed to *induce* innovation or attain a specific goal or technology) versus 'recognition prizes' which reward excellence in general (like the Nobel or Equator<sup>5</sup> prizes). Recent examples includes the *AidEx Aid Innovation Challenge* (showcasing concepts or products that can save or improve lives); Facebook's *Internet.org Innovation Challenge in Africa* (internet-based solutions to promote education and economic empowerment); the *RELX Environmental Challenge* (to provide sustainable access to safe water or sanitation); the *SDGs and Her Competition* (for women micro-entrepreneurs); the *Brucellosis Vaccine Challenge prize* (a disease that affects small ruminants, such as sheep and goats); as well as recent interest in prizes in response to the COVID-19 pandemic.

Paradoxically, such prizes are also an understudied phenomenon. There is little consensus in the prize literature of what an inducement prize is beyond a very broad definition, and authors use a variety of names that are sometimes interpreted differently. They are sometimes known as 'targeted' or '*ex-ante*' prizes, awarding for solutions to a

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<sup>5</sup> The Equator Prize, organized by the United Nations Development Programme (UNDP) and is awarded biennially to recognize community efforts to reduce poverty through the conservation and sustainable use of biodiversity.

pre-specified problem. As Gök (2013) also notes, there are such increasing levels of flexibility involved in prizes that this has led to a “vast number of prize typologies, based on many different prize characteristics”. It is this disparity that seems to have led to prizes being both “under-studied and undertheorized, leaving policy makers with a range of implementation and governance challenges” (Burstein and Murray 2016).

This paper aims to further our understanding. It focuses on inducement prizes that specifically aim to drive innovation to the benefit of the very poorest. Ideas to Impact has been implementing and testing seven prizes that induce innovative solutions for climate change adaptation, energy access, plus water, sanitation and hygiene (WASH). From 2012 to 2019, the seven prizes were:

*Energy access:*

- **LPG Cylinder prize**, which ran for three months from July 2015. The prize aimed to generate ideas for alternative uses for the old gas cylinders that would be recovered as part of the Ghanaian government’s planned cylinder exchange policy (otherwise destined for cleaning then sending to the smelter).
- **Global LEAP Off-Grid Cold Chain Challenge (OGCCC):** The challenge aimed to identify, reward and promote the most appropriate technologies for off-grid cold storage and by filling the information gaps in the off-grid cold storage sector, plus stimulate appropriate support from donors, investors and government.
- **Global LEAP Off-Grid Refrigerator Competition:** This is a pre-existing recognition prize that aimed to stimulate the market for off-grid refrigerators in sub-Saharan Africa. The Ideas to Impact programme contributed by adding a

third innovation prize, specifically to induce appropriate design and the user experience feedback, including field testing in Uganda.

*Climate change adaptation:*

- **Adaptation at Scale (A@S):** a two-stage prize (the *Protsahan* and *Karyanwayein* prizes) which ran in Nepal from 2016 until 2019. These prizes aimed to reward and promote innovative ways to scale up and expand the reach of climate change adaptation initiatives.
- **Climate Information Prize (CIP):** a two-stage competition (the *Wazo* and *Tekeleza* prizes) that ran in Kenya between 2015 and 2018. These aimed to encourage local innovators to develop climate information services that could be accessed and used by farmers to reduce their vulnerability.

*WASH:*

- **Dreampipe II:** a three-stage prize that ran from 2017 to 2019, which sought to stimulate the innovative contractual and financial arrangements to fund non-revenue water (NRW) reduction by water utilities in developing countries. The prize closed after the second stage.
- **Sanitation Challenge for Ghana (SC4G):** a two-stage prize in Ghana (from 2016 to 2019) that aimed to induce innovation around integrated urban sanitation systems by rewarding municipalities who successfully develop and implement integrated urban sanitation plans.

Ideas to Impact takes a broad view of innovation.<sup>6</sup> Each award goes beyond stimulating a new technological solution, as might be the case with a competition to address (say) a data security challenge, or to create a new app or algorithm. As Williams (2012) highlights, prizes can have a broader social value: not only can they incentivise the creation of a desired technology (for which we might also infer any innovation) but they can provide additional benefits (such as to spur the innovation of technologies for use at scale, as well as incentivise subsequent research by placing technology in the public domain).

This desire to achieve ‘social value’ is at the heart of the Ideas to Impact programme, and the lessons drawn from its prizes offer insights into what might (or might not) be possible to achieve with a prize.

### ***Defining prize success***

Like defining prizes themselves, there are multiple perspectives of what constitutes prize success: (1) it may be the award of the prize itself, with a winner having solved a particular challenge; (2) it may be the achievement of a ‘prize effect’ such as attracting a wider diversity of solvers or creating a publicity ‘buzz’ for the winner; or, (3) it may be an innovation that contributes to development outcomes. We found in Ideas to Impact that these different definitions co-exist, sometimes in tension, and often associated with different professional perspectives (evaluators, prize professionals and sector experts). Table 1 provides a rudimentary summary of the prize evaluations, mapping the extent to which the prizes met their expectations based on these three

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<sup>6</sup> We define innovation as, “a new process, technology or service, and often a blend of all three, that is either: new to the world (*novel*), new to the location or firm (*imitative*) or new to the field of endeavour (i.e., repurposed, or *adaptive*)”. Source: Roberts *et al.* (2019).

perspectives.

[Table 1 near here]

The table demonstrates the importance of definitions and expectations of prize success from the outset. Firstly, any award of a prize is by definition a form of success. This is especially so if the challenge has been well-specified, fairly judged and verified, giving confidence that the winner has resolved the particular challenge. This is a common approach for industry-led prizes where finding the solution for a company or industry-wide problem is the desired end-result. For example, the US has run nearly 1,000 such challenges across more than 100 federal agencies since 2010,<sup>7</sup> covering a huge diversity of issues: from software for virtual robots operating autonomously in space, to ways to eradicate a disease that kills hibernating bats. This is the most common definition of prize success and may also lie behind the general lack of evidence of prize effectiveness with much of the contemporary prize discourse based on assertions rather than proof or evaluation (Burstein and Murray 2015).

Secondly, success can often be viewed as something intrinsic to the prize modality. Based on Ward and Dixon (2015), Ideas to Impact identified nine such prize effects (Figure 1), ranging from raising awareness to promoting best practices, facilitating networks, and enabling new solvers to enter the field. Winners and prize participants commonly find these benefits to be worth more than the financial award, helping them publicise their work or find commercial partners.

[Figure 1 near here]

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<sup>7</sup> U.S. General Services Administration. Source: <https://www.challenge.gov/about/> accessed on 25th November 2019.

Third, success can be thought of in terms of the prize's contribution to development outcomes. Conrad *et al.* (2017: 11) identifies this as (paraphrased): 'a social impact is when the intended beneficiaries *adopt* or *use* a prize solution, but not necessarily a requirement of the award criteria'. For example, it is possible to award a prize for an innovation (e.g. on-farm storage) and in doing so create prize effects like raising the winner's profile and connecting them with organisations to scale-up and/or commercialise. Yet, the solution will only go on to have a social or environmental benefit (improved food security) if rural households *adopt* the on-farm storage technology.<sup>8</sup> This creates a higher threshold than is commonly used for prizes, and one that is generally more difficult and costly to measure (Gök 2013). This is what the Ideas to Impact aimed to achieve, and therefore offers insights about what is possible.

In the remainder of this paper we summarise the value of the Ideas to Impact prizes compared to alternative modalities, and in doing so, highlight the critical period after the awards for achieving sustained social and environmental impact. The paper then draws out lessons on how best to use prizes to achieve innovation that supports an impact on the very poorest.

### **The value for money of prizes**

Stott and Gould (forthcoming) compare the value for money (VFM) of three Ideas to Impact prizes (CIP, SC4G and A@S) to other funding modalities. This analysis demonstrates similar levels of VFM, albeit achieved in different ways. VFM is notoriously difficult to apply to prizes, as they do not readily lend themselves to

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<sup>8</sup> Example based on Conrad *et al.*, *ibid.*

monetarised or comparable effects, such as those typically assessed using cost-benefit analysis. There are few examples in the prize literature.<sup>9</sup> The Ideas to Impact VFM approach drew on an indicator-based assessment, developed from the 4Es (economy, efficiency, effectiveness and equity) framework. The prizes were compared with selected interventions targeting similar outcomes using alternative funding mechanisms (typically a grant-based programme). While the findings themselves are more indicative than conclusive, they nevertheless demonstrate that:

- Prizes tend to stimulate action by a more diverse group of actors than the comparators. For example, SC4G was found to increase government commitment to improve sanitation service delivery, largely due to the broader reach of the prize at both local and national government levels.
- Prizes did not provide as much as the comparator projects in building capacity, with SC4G and CIP providing limited solver support (i.e., delivering ‘orientation’ workshops rather than more comprehensive training evidenced in other programmes). A@S is an exception, with an increased level of solver support delivered by the prize through training and site visits.
- Overall, when taking account of the effectiveness relative to costs, the prizes do not reveal significant differences compared to the comparator projects.

In short, the added value of the prize modality lies less in its ability to be intrinsically more effective (and/or cheaper) than the alternatives, but rather in being able to achieve effects in different ways (such as reaching a greater number and

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<sup>9</sup> There are examples of Return on Investment analysis (e.g. Bishop 2010), comparing the costs and returns of prizes with traditional Research and Development investments. These do not however capture social benefits.

diversity of solvers and other participants,<sup>10</sup> creating the space for open innovation, etc.). The assessment of CIP showed that the prize and the comparable grant-funded programme each addressed different aspects of the problem: with the comparison programme<sup>11</sup> influencing upstream activities through technical assistance to support national and county -level meteorological services; while CIP was working more downstream to encourage non-state actors to deliver services directly to users. For the SC4G prize, the prize and comparison grant programme addressed the same challenge but at different scales and by different means: SC4G operating on a much larger scale, with seventeen participating Metropolitan, Municipal and District Assemblies (MMDAs) compared with two MMDAs under the comparator Sanitation Service Delivery (SSD) programme. The approach of the SC4G prize necessitated that the MMDAs were self-funded and self-motivated to achieve their sanitation plans, compared with the SSD's direct support provided to the MMDAs. Early indications suggest that SC4G has seen 'better' results in terms of government commitment, while SSD has seen 'more' results in terms of building the capacity of the MMDAs.

Two distinct benefits stand out across the seven prizes: (1) open innovation that involves new entrants solving a problem in new ways (attracting *the new*); and, (2) maximising participation by increasing the number of people and organisations (*the many*) working on a particular problem. The latter is not simply the total number and diversity of participants involved, as the efforts of all participants can add value. For

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<sup>10</sup> Participants go beyond solvers (i.e., those focused on addressing a particular problem), and include those that are also stimulated to change their behaviour and implement the solutions.

<sup>11</sup> The comparison programme was the Weather and Climate Information Services for Africa (WISER) programme.

instance, under SC4G, all of the 17 MMDAs by participating achieved some results in developing their sanitation plans, which collectively adds up to a greater achievement.

### ***The value of open innovation***

For funders and policymakers, prizes offer an alternative to using grants or direct contracts to deploy relevant experts to research and resolve a ‘problem’. Prizes provide the means by which to seek a broader diversity of ideas without having to commit to payments until an appropriate solution (or range of solutions) have been found. CIP for example, inspired eight of the 18 finalists to create and launch new climate information services. Eight of these participants were new solvers to the field, and while several were working in related areas of climate change, it was the prize that motivated them to address this specific problem. The winning organisation had previously been delivering an agricultural input franchise, yet it was the prize that led to them introducing a climate information component to this service. Similarly, the LPG Cylinder prize evaluation found that submissions were from people that DFID would have been unlikely to reach through their usual procurement channels (with at least 71% of winners being new to development funding).

### ***The value of maximising participation***

Prizes have the potential to attain impact at scale, although this is far from inevitable. Maximising participation means that many more solvers can contribute to a cumulative effect, while it also increases the chances of one or more innovations successfully operating at scale. For instance, the evaluation of SC4G (Gould and Brown 2020) concluded that the prize was effective at achieving results at scale. With no upfront funding and minimal solver support to the MMDAs, it stimulated the majority of the 15 participating MMDAs to achieve good progress towards sanitation services for the poor.

Similarly, even those that dropped out of CIP before the prize completed (i.e. participants rather than winners), still reported providing climate information services to 186,281 people in aggregate.<sup>12</sup> Prizes can also be an opportunity to engage communities, enabling those directly affected by a problem to participate in finding a solution. The A@S prize involved local communities to stimulate a larger number of participants than expected, each delivering adaptation projects in Nepal.

It is nevertheless too early to conclude whether prizes increased the probability of at least one innovation reaching scale (Brown *et al.*: forthcoming). The follow-up evaluation to CIP for example showed that many prize participants were moving towards commercialisation with user fees, but it was too soon to be sure that they had attained a financially sustainable business model.

### ***Sustaining impact after the prize award***

Open innovation (new entrants, new ideas) and maximising participation (contributing to a greater overall effect) are important benefits of the prize modality. The key test for Ideas to Impact however, is whether the prize led to a sustained development change in the period following the award. This is essential for the social benefits to accrue. For example, the SC4G evaluation (Gould and Brown 2020) found that the majority of the 15 finalist MMDAs made good progress in their strategy implementation, yet there is still a way to go before this leads to improved sanitation services for the poor.

Prizes tend to occur over short, defined periods, with inherent assumptions about what happens next in the post-award period. In other prize settings, an innovation tends to be situated within an organisation where it is reasonable to assume uptake because of

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<sup>12</sup> These numbers have not been fully verified but indicate an estimate of the scale of the impact.

a clear demand. For example, many of the US government prizes have a direct, practical use and identified user (e.g. the ‘Rust Busters challenge’ to develop corrosion control for under-water infrastructure has a direct use by the Bureau of Reclamation, the federal agency responsible for dams, power plants, irrigation canals, etc<sup>13</sup>). In many LICs, the demand and pathway to benefiting the poorest is part of a more complex system – with many influential stakeholders, and sometimes fragile and dysfunctional contexts. While there are circumstances where prizes lead to a ‘tipping point’ for an innovation to take-off, this is by no means certain.

For two of the Ideas to Impact prizes, the evaluations were able to consider post-award effects by revisiting the prize winners up to a year after their award. Under Dreampipe II, there was some non-revenue water activity beyond the end of Stage 2. The first-place winner went on to implement and finance their expansion project as planned, using funding from the same commercial partner as in Stage 2 of the prize. For the other three winners, the utilities had not sought or secured external, non-traditional financing, although they have continued with their non-revenue water reduction activities. For the other Ideas to Impact prizes, the evaluations considered the likelihood of sustained impact, as it was not possible to revisit them in the post-award period. For the A@S prize, participants continued to plan actions beyond the award, engaging local government, the private sector and communities in their initiatives. Under SC4G, the majority of MMDAs seem likely to continue with their liquid waste management activities in the short-to-medium term, as this is part of the government’s medium-term development plans and budgets.

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<sup>13</sup> <https://www.herox.com/RustBusters>

## **Lessons on using prizes for development**

The Ideas to Impact prizes offer several lessons on ways to enhance the likelihood of sustained success. While these lessons have broader appeal for other prizes aiming to drive innovation and contribute to social change, the four highlighted here have particular relevance for prizes aiming to benefit the poorest. Important lessons are: (1) Address the enabling environment in prize design, or through complementary support; (2) Use participant feedback to adapt the prize, given the uncertainties in LIC contexts; (3) Be deliberate about the inclusion and exclusion of the prize process, rather than maximise participation by default; and, (4) Re-balance the burden of risk for prize participants, especially those that are resource-poor.

### ***Addressing the enabling environment in prize design***

The ability of the Ideas to Impact prizes to contribute to development is heavily reliant on the actions of external stakeholders and the broader context. While this is also true for other types of development intervention, the prize modality differs in that once the prize is launched there are few ways to influence external factors. This puts more onus on the robust identification of the prizeable problem, as well as a greater reliance on assumptions being correct around the way in which the innovation will be taken up.

Ideas to Impact ran prizes only where an enabling environment had been identified through desk-based and in-country research (e.g. Collings 2015); and where possible, implemented alongside other forms of funding (as suggested by Everett *et al.* 2011).

The enabling environment<sup>14</sup> was taken into account in the original diagnostic research

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<sup>14</sup> The ‘enabling environment’ is defined as the external conditions necessary for an innovation to lead to social benefits, including the policy environment, innovation and market systems.

to find prizeable problems. For example, the assessment of energy access (Collings 2015) considered the process by which new technology develops, reaches the market, and ultimately benefits the ‘bottom of the pyramid’ consumers<sup>15</sup>. The study found that, “...in almost every instance the problems identified by our experts relate not to technical innovations – though these have a role to play – but in other aspects of the technology innovation system, especially building markets, securing financial and human resources, and legitimation. To be useful in unblocking some of the obstacles to universal energy access innovation prizes would have to be capable of assisting with these kinds of challenges”. Based on this initial analysis, the prize design chose to focus on cooking with liquid petroleum gas (LPG) in Ghana, partly because a policy on recycling LPG was anticipated with support from the LPG industry and multilateral funders. In this end however, this did not happen.

In practice, it has been difficult to implement the Ideas to Impact prizes alongside other interventions, as key assumptions have not always held. For example, for the CIP in Kenya it was initially expected that there would be a greater level of support from the Kenyan Meteorological Department (KMD), based on research during the design stage (Brown *et al.*, forthcoming). During implementation, collaboration with KMD was not as strong as had been expected,<sup>16</sup> and instead relied upon participants brokering the relationship they needed to access information themselves. It was also assumed that prize participants would be more successful in leveraging funding from

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<sup>15</sup> Bottom of the Pyramid refers to the lowest socio-economic segment of consumers in the world.

<sup>16</sup> Although this did pick up towards the end of the prize period, when KMD representatives became involved in the judging process for CIP.

investors. Instead, they relied much more on their own resources, with some also asking for contributions from users. Still, 70% (18) of participants remained engaged until the end of the prize, with only two discontinuing services and a further two downscaling in the year after the prize.

To this end, the use of theories of change (ToC) has proved to be a useful tool for collaboration and joint reflection between prize teams and evaluators. Importantly, many of the ToCs helped with considering factors beyond the immediate prize effects. This fed into the prize designs, the judging criteria, and additional solver support (something we return to later). The use of multi-stage prizes in particular, enabled prize teams to incrementally address the problem. For example, CIP had a first stage prize, *Wazo* ('idea') to encourage people to come up with new ideas followed by a second stage prize, *Tekeleza* ('implement'). A third prize, *Tambua* ('recognise') was used between these prizes to maintain interest and motivation.

### ***Empowering prize teams to respond and adapt***

The second lesson, is that the Ideas to Impact prize teams were flexible in responding to the changing context and feedback from prize participants and other stakeholders – another advantage of the multi-prize designs. For example, the A@S prize team introduced new categories of prizes once more was known about the participants; helping to 'level the playing field' for small organisations, including local NGOs and Community-based Organisations (CBOs), and small private sector organisations. Dreampipe II was a redesigned and relaunched prize based on learning from the first stage prize.

For the A@S, CIP and SC4G prizes, Ideas to Impact partnered with local organisations who were already working on the issues targeted by the prize, and thus better positioned to use their networks as part of the prize implementation. Not only did

this provide local knowledge, but these partners were able to support after the prize award and increase the likelihood of success.

In summary, the prize teams were adjusting the prize process (criteria, solver support, etc.) in response to participant feedback, while several of the prizes highlight the central role of locally-based partners due to their constant presence and ability to contribute in the post-award phase.

### ***Inclusion and exclusion in the prize process***

Inclusion and equity among award recipients and prize participants are likely to be of greater focus in developing country contexts than when prizes are used in other settings. One of the benefits of prize modalities is that they are able to maximise the number of people who take part.

In resource-poor settings however, small organisations like local NGOs and CBOs may lack experience of prize processes and incur costs that are burdensome. For example, participants of A@S reported challenges in terms of the time commitment required to participate in the prize, including implementation time, workshops, reporting and supporting team visits, all of which needed to be done with no additional resources. 15 participants said that they relied on financial and in-kind contributions from communities to deliver their projects, including land, labour and time. Two participants also reported that their participation in the prize negatively affected their relationship with the communities they worked with due to raising expectations and losing trust.

While the prize modality is able to attract a wider pool of organisations / individuals to achieve an innovation, it may sometimes be necessary to target the 'right' prize participants and deliberately include some and not others. This differs to a typical prize this regard, which is open to whoever wishes to enter, such as the LPG Cylinder

prize based on the InnoCentive platform.<sup>17</sup> Instead several Ideas to Impact prizes, relied on targeting a subset of individuals or organisations. This was considered necessary to achieve the desired contribution to development. This narrowing of the potential solver pool was often translated into the eligibility criteria: both the entry to Dreampipe II and the CIP were limited to organisations rather than individuals, and, SC4G was only open to MMDAs in Ghana. For other prizes, the prize team indicated that a certain mix of participants was desirable such as encouraging women-led organisations to enter the A@S prize.

By narrowing the field in this way, it is also necessary to assess whether the prize design will be appropriate for resource-poor organisations who may be less familiar with the requirements of donor funding. There is some evidence from the prize evaluations that several organisations struggled with making sense of Terms and Conditions and dealing with a different way of reporting. Well-funded organisations are more able to hire people to produce what is needed to participate – as was found to be the case in A@S - but this may be too much of a burden for smaller organisations, creating a potential barrier to participation.

Solver support can help address this issue; supporting individuals or organisations so that they are able to participate in the prize on a fair basis. While all seven prizes were able to make awards, the level of support provided to solvers varied, and was generally low. The prizes that were open to a global pool of potential participants (Dreampipe II, Global LEAP, OGCCC and LPG Cylinder Prize) limited

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<sup>17</sup> InnoCentive is an online marketplace for open innovation. It aims to help organisations solve technology, science, business and data challenges by connecting them to a global network of problem solvers. See: <https://www.innocentive.com/>

their support to just responding to questions / problems relating to the prize process, although the Global LEAP prize covered the costs of shipping appliances to the test sites in the Netherlands and Uganda. Those prizes whose participants were public sector and non-state organisations in developing countries were provided more support by comparison, or given concessions (e.g. allowing applications to be submitted in a different language or by post rather than online).

Through providing a more extensive range of solver support to participants, the A@S prize is the most notable example by working with local NGOs and CBOs in Nepal. It aimed to both support ongoing participation, and also strengthen the adaption innovation capabilities of participants by focusing on the competencies needed to problem solve, create and apply innovations effectively. The first stage *Protsahan* Prize recognised successful initiatives that have supported adaptation to climate change among the poorest and most vulnerable groups in Nepal. In essence the hybrid recognition/ideation prize<sup>18</sup> provided connections, support and ‘seed money’ to enable applicants to scale-up their activities – for which they were incentivised to take action by the second stage *Karyanwayein* Prize. Between the two prizes, the evaluation for A@S found that ongoing support from the prize team was beneficial in engaging, encouraging and motivating participation, and building participants’ understanding of the prize problem.

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<sup>18</sup> The first stage recognised existing initiatives and induced ideas on how they could scale them.

### *Re-balancing the burden of risk*

And lastly, prizes can be viewed as a form of results-based financing,<sup>19</sup> in effect transferring much of the risk to participants as funders only pay for ‘success’ (results) at the point of award. Depending on the type of innovation, this can create an inherent tension between incentivising innovation (i.e., requiring participants to take risks and move into new fields or new ways of working), and pushing participants to take on greater risks than they can handle. It is likely that the greater the incentive to innovate (as with a high-profile prize, or very large prize purse), participants will incur higher costs and take greater risks. This is the skill of the prize team in designing the prize, and while it is theoretically up to participants to balance the risks and rewards, this becomes more acute in resource-poor contexts.

It remains unclear who takes on the greatest risks in a prize process. The Ideas to Impact evaluations do not suggest that winners were predisposed to be better positioned at the start than non-winners. For example, the first-place winner of the CIP had not worked on the issue previously whereas the winners of A@S had already worked in climate change adaptation. Importantly, careful calibration and insight are necessary in order to tailor each prize design: asking enough of participants to shift their behaviour, without asking too much to deter them from participating, nor offering too much reward that they take unreasonable risks. As mentioned earlier, SC4G recognised this by setting judging criteria that assessed the progress of the MMDAs by comparing them to their

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<sup>19</sup> Results-based finance incentivises the achievement of desired outcomes and payment is based on results. While this is similar to prizes, the financial reward of a prize (the prize purse) is not a function of the expected cost to the winner.

own baseline situation rather than benchmarking them against each other (in a league table).

### **Concluding remarks**

Social and environmental change – such as contributing to the development outcomes of the poorest - is not easy, and a lot depends on the subsequent behaviour (adoption and use of the innovation). The Ideas to Impact prizes suggest that this is best enhanced by prize teams proactively taking account of the enabling environment, adapting in response to participant feedback, deliberately addressing the inclusion/exclusion of participants, and re-balancing the risks placed on potential prize participants.

In addition, the configuration of multi-stage prizes allows different prize types to be used to reinforce each other. As Roberts *et al.* (2019: 24) point out, “Ideas to Impact’s prizes were designed to comprise of two or more stages, typically an Ideas Award (participants invited to submit a concept note, business plan, etc.) followed by one or more prizes focused on incentivising implementation (scaling up a climate change adaption project, for example, or implementing a sanitation plan)”. The first stage was typically used to narrow the set of high potential participants as well as better understand what sort of solver support and incentives were necessary in the second stage.<sup>20</sup> The in-between stage could also be used to manage some of the risks, re-balance the burden on participants, and better understand participants and constraints in the enabling environment.

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<sup>20</sup> Some of the climate change prizes, like A@S, opened up the second stage to new participants (i.e., not restricting access to those from stage 1).

This is different to most of what little literature exists, where prizes tend to be used to incentivise people to come up with ideas and plans - similar to the first stage Ideas to Impact prizes - but few prizes require the solvers to implement them, without financial and technical support (Roberts *et al.* 2019). Ideas to Impact tended to assume that solvers would find the investment they needed and have the capacity to achieve the second or third stages. As Roberts *et al.* (2019) points out, “These implementation prizes [referring to Ideas to Impact] place substantial demands on their participants, not least finding sources of finance, persisting with the prize process for over a year, sending in regular progress reports, etc. Participants are expected to do this with little technical support and no seed funding to get them started; and while winners of the first in a multi-stage prize may elect to use their cash reward for this purpose, they are under no obligation to do so”.

This suggests that either more solver support (non-financial incentives and capacity building) is necessary to help prizes achieve their intended social effects, or some form of post-award or complementary support (e.g. a prize like CIP alongside the Weather and Climate Information Services for Africa programme). While innovation prizes are not a substitute for other policy measures but a complementary instrument (Gök 2013), the evidence about how best to do this is limited. This paper contributes to this gap by reiterating the need to use prizes alongside other types of development intervention, rather than seeing such modalities in direct competition.

(Original Article: 6,115 words)

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## Tables (and captions)

Table 1. Summary of success achieved by Ideas to Impact prizes

	A@S	CIP	Dreampipe II	SC4G	Cylinder	Global LEAP
Award	Yes – 10 prizes awarded for Stage 2	Yes – 7 prizes awarded	Yes – 8 prizes in Phase 1 4 prizes in Phase 2	Yes – 3 prizes & 18 honorary awards in Stage 1; 9 prizes in Stage 2	Yes – 7 prizes awarded for partial solutions	Yes – 8 prizes awarded
Prize Effects	Yes - best practice; partnerships & networks; policy environment; community action	Yes - raised awareness; best practice; partnerships & networks	Partial – uncovered new models, but not yet a feasible point solution; raised awareness	Yes – by influencing the policy environment	Partial– no full point solution (that could be immediately implemented at scale)	Yes - raising awareness and promoting best practice
Contribution to development	Yes (to an extent) - participants engaged to scale-up adaptation (to some extent)	Yes - increased access and use of climate information	Yes / Partial <sup>21</sup> – reduced NRW in ‘demo’ projects; mobilised non-traditional finance but not with replicable models	Yes - the majority of finalist MMDAs made progress is implementing strategies	No - Government of Ghana was not in a position to implement	Yes (to an extent) – although limited effect on sales (uptake) of appliances

Note: The ratings are indicative only. Adapted from Brown *et al.* (forthcoming).

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<sup>21</sup> Dreampipe II mobilised finance from non-traditional sources, although it did not produce replicable ideas as originally intended – and hence there was no Phase 3. The six demonstration projects that made it to judging had good coverage and led to some reduction in water losses (an estimated 490,000 people were served). The evaluation found that the prize either provided added impetus to a previously formed project or incentivised the development of new plans and partnerships.

## Figures (and captions)

Figure 1. The nine prize effects identified by Ideas to Impact



Source: Stott and Brown (2019).