

Commentary

Sharing Adaptation Failure to Improve Adaptation Outcomes

Ross Westoby,¹ Mohammad Feisal Rahman,² Karen E. McNamara,^{3,*} Saleemul Huq,⁴ Rachel Clissold,³ and Mizan R. Khan⁴

¹Griffith Institute for Tourism, Griffith University, Nathan, QLD, Australia

²Department of Geography, Durham University, Durham, UK

³School of Earth and Environmental Sciences, University of Queensland, St. Lucia, QLD, Australia

⁴International Centre for Climate Change and Development, Independent University Bangladesh, Dhaka, Bangladesh

*Correspondence: karen.mcnamara@uq.edu.au

<https://doi.org/10.1016/j.oneear.2020.09.002>

Sharing lessons is critical for ensuring that finite funding for climate change adaptation is deployed in ways that provide the most value and impact. Successes are celebrated, but failures are habitually obscured, leaving a major knowledge base untapped. This commentary calls for the urgent sharing of failures as a source of critical learning.

Introduction

Earth's surface has been consecutively warmer in the last three decades than any decade since 1850.¹ The associated changes are unequivocal: oceans are warming, ice sheets and glaciers are melting, sea levels are rising, and extreme events are becoming more severe, to name a few.¹ Changes experienced since the 1950s are unprecedented over decades to millennia and pose extensive risk to our natural and human systems.¹ Poverty and disadvantage, health, human security, economic growth, and food and water security are all expected to worsen. Although mitigation is essential, we are already locked into a certain level of change, rendering adaptation an unavoidable priority. It is also *urgent* as the likelihood of exceeding adaptation limits grows as climate change increases in scale and magnitude. Delays in effective adaptation will make it increasingly difficult for highly exposed countries to meet adaptation needs.¹

Despite this urgency, the quantity of adaptation funding and the quality of adaptation efforts to date have received criticism. Relative to mitigation efforts, adaptation funding is a drop in the ocean even though it is a growing “business.”² Although a target of \$100 billion a year by 2020 was agreed upon at the UN summit in Copenhagen in 2009, this goal is not close to being met.² As a result of an unclear definition of what counts as adaptation finance and political motivations in the coding done by donors, accounting and reporting systems of adaptation fund-

ing suffer from inconsistency, over-reporting, and a lack of transparency.³ Yet, as estimates have it, less than 10% of global climate finance goes to adaptation and the rest goes to mitigation.⁴ To make things worse, a study by the International Institute for Environment and Development⁵ reported that less than 10% of the allocated funding actually reaches the local level, meaning that overall, less than 1% of global climate funding actually reaches the communities at the frontlines of climate change. This is simply unacceptable.

Adding to concerns about funding deficiencies is an unease about how this money is spent. When it comes to adaptation, we need efficiencies and the sharing of lessons. It is crucial that we do not waste precious resources—in terms of finances, time, and human capital—by repeating mistakes that are not readily admitted and shared. We know that sustainable adaptation is not straightforward and that there are no silver bullets.⁶ And so, in the spirit of collaboration and collegiality, we need to share our failures so that all stakeholders—donors, governments, implementing agencies, researchers, and communities—can learn from them.

In the adaptation field, success stories are often shared and promoted so that they can be scaled up and out in future programs,⁷ but failures are often hidden from view. This is an oversight because the learnings that stem from failure are as significant as success stories for ensuring that future adaptation efforts

are more equitable, effective, and sustainable.⁸ This commentary is, therefore, a call to the global “adaptation community” to share adaptation performance even when characterized by failure.

We appreciate, however, that it is difficult to admit when something has failed, especially when funding prospects might be affected. Perpetuating this lack of transparency is the difficulty and ambiguity in measuring adaptation “success” given that many issues related to temporality, scale, and uncertainty exist.⁹ Although there are common assessment approaches (e.g., input-output-outcome, process-based, behavioral change, and economic), they all reflect different meanings of what “successful” adaptation is.⁹ No universal measurement of “success” exists given that meanings change over time and are dependent on the local context or who is adapting.¹⁰ These are the predicaments in which the adaptation field finds itself, and these need to be rectified urgently. When the donor system rewards “success” on the basis of its own definitions and avoids admitting failure, how is the adaptation community to proceed? Some examples below shed light on this conundrum.

Failure at the Grassroots Level in the Pacific

The first example is in relation to a 3-year research project on evaluating community-based climate change adaptation in the Pacific Islands region.¹¹ We found that implementing agencies were reluctant to have us, as external researchers,

evaluate their projects and share findings, most likely because of a fear of the ramifications on funding prospects. This is not a new challenge. Most reports evaluating community-based adaptation projects globally were written by implementing organizations themselves, suggesting a “positive bias” and a risk of under-reporting failures.⁸ Some organizations also hold project reports internally, making them inaccessible to the wider community.

In the initial project stage, several organizations were consulted to determine whether the research team could evaluate their adaptation initiatives. The response from one senior staff member at a prominent regional organization was, “If you’re going to evaluate our projects, I’d tell you to go away.” This response wasn’t unusual given that several implementing agencies were uncomfortable with, and outright deterring, us from evaluating “their” adaptation initiatives. Such territorialism and fear stem from the lack of control over the process, and the implications for funding cannot be underestimated. These implementers are a business competing for a slice of funding from a finite bucket that will diminish over time.¹²

As the research project continued, the greatest challenge was the delicate act of balancing key findings, including failures, without being community or project specific. There is of course an ethical concern for not identifying too much, particularly for communities who are concerned that their reflections on past projects might affect future help from implementers. But what was not expected was the wider concern that everything needed to be de-identified (both sites and projects) because of a fear of funding implications. The competitiveness of funding induces a genuine fear that donors will use failure to justify funding one implementer over another or to remove funding completely; rather, it should be perceived as a base from which lessons can be drawn and practice improved.

Failure was found in the tendency for adaptation projects to be trialed on communities, almost experimentally. Although pilots are important, they are often implanted without much consideration for local context and can burden communities as the hosts of such trials. One example of this was the implementation of a compost toilet that failed on many fronts, although at a fundamental level it

was deemed undesirable because of poor alignment with cultural norms around sanitation and hygiene. As a result, it was moved away from the intended community and placed at a school for children to use instead. Over time, it was not properly maintained, which caused it to smell. As researchers in the Pacific, we have repeatedly heard, anecdotally, that compost toilets are not well received, but it is difficult to find any documentation of this “lesson” anywhere, hence its continuous reimplementing in multiple different communities. Our research was the first such documentation of this kind of failure.¹³

Failure on an Industrial Scale in Bangladesh

We look to adaptation strategies in southwestern coastal Bangladesh to illustrate how adaptation “success” has different meanings depending on who is doing the adapting and how a fear of failure might be restricting dialogue about whose interests are being represented. These issues with imposing standardized outcomes and overlooking people’s diverse (and evolving) meanings of what adaptation “success” might be are not new.¹⁰

In Bangladesh, since the 1970s, the government, donors, development agencies, and non-governmental organizations (NGOs) have promoted the conversion of agricultural lands into commercial brackish water shrimp aquaculture. The shallow ponds that are replacing rice fields are known as “ghers” and have evolved as an adaptation strategy to cope with rising salinity in the region. With support from various stakeholders and government policies, including climate change policies, the area under shrimp aquaculture is set to be expanded tenfold over the next 40 years.¹⁴ By 2013, over two million people were involved in the industry, which became the second-largest export commodity in Bangladesh after bringing in about US\$454 million in 2011–2012.¹⁴

Unfortunately, the economic gains from shrimp farming have largely gone to local elites and wealthy absentee businesspeople, whereas increasing soil salinity and destruction of local ecosystems have resulted in the loss of livelihoods for other locals, particularly landless farmers. Community concerns about the expansion of shrimp farming

have faced resistance from the more powerful shrimp farmers, and they have often been silenced by violence. In one instance, a landless peasant leader named Korunamoyee Sarder was brutally lynched by shrimp farmers during a protest in 1990.¹⁵ The intensification of this industry has displaced many and altered local land distribution and power structures.¹⁵ Yet, we have not learned from past mistakes given that intensive shrimp aquaculture is still promoted in other coastal areas (e.g., the Mekong Delta in Vietnam). With the constant pressure to be successful, agencies that implement these kinds of strategies focus on promising a better future, which is characterized by new jargon and new approaches, rather than looking to the past to derive lessons.

Although high economic returns from shrimp farming might indicate a successful adaptation strategy, this intervention has failed a large proportion of the community. Technocratic solutions, advanced by donors and development partners, often disregard the heterogeneity of impacts and local-level power disparities. Local partner NGOs also contribute to this phenomenon because they do not always report accurately on intervention outcomes or are skeptical to report details because they fear a loss in confidence from donors. This fear of sharing failures could be stifling self-reflection on, and the willingness to share, the heterogeneity of outcomes, thereby reinforcing the vulnerability of marginal groups. Seeing the value in failure could help us create the needed space for more authentic dialogue about whose interests are being represented while also helping us to move on from obsessing over defining “success” and having standardized adaptation outcomes that inevitably favor some views over others.¹⁰

Hiding Adaptation Failures Is Not an Option

Fear can be a debilitating emotion that stymies creativity, innovation, and forward thinking. As researchers, we are responsible for challenging business as usual by calling for multi-scalar transformations in culture and practice (see [Figure 1](#)). First, we challenge all individuals and organizations working in the adaptation sector (e.g., implementing

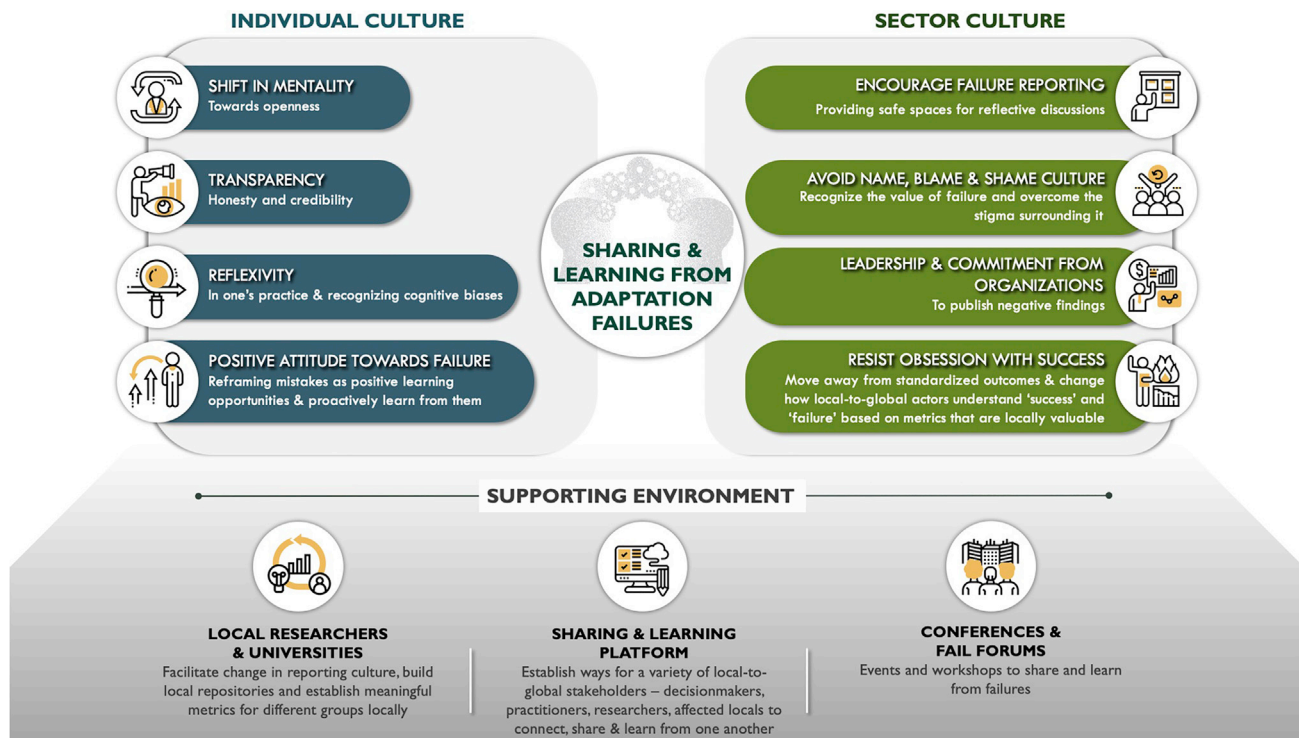


Figure 1. Transforming Learning Cultures and Practices around Failure
Created by Mimansha Joshi.

agencies, donors, and researchers) to have positive attitudes toward failure (i.e., reframe errors as positive learning opportunities) and implement ways to manage and proactively learn from mistakes. We need individuals to be transparent, honest, and reflexive in their practice, and we need senior managers to model this mindset and promote the attendance of cognitive bias trainings. The sector must also challenge the “name, blame, and shame” culture by encouraging failure reporting through “failure reporting amnesties” and rewarding proactive learning from failure.¹⁶ This must be complemented by a change in donor culture from short-term funding contracts to longer-term, adaptive approaches centered on learning because learning from failures at one stage can eventually lead to success.¹⁶ Commitments from existing portals and journals to publish negative findings could also contribute to reducing stigma.¹⁶ The United Nations Development Programme’s Adaptation Learning Mechanism platform, for example, should commit to, and pave the way toward,

sharing failure stories and lessons. Like our counterparts working in international development, perhaps we should host fail forums that encourage reflective discussions and learning from adaptation failures. The sector must, however, go beyond commitment. We need leading global organizations to show leadership and persistence in advocating for cultural change, set the precedents, and normalize proactive learning from failure reporting.

Local capacity dearth is often cited as a major barrier to channeling funding to the local level. Capacity building initiatives to date have followed a consultant-driven “fly-in-fly-out” model, which has failed to deliver long-term in-country capacity, and universities that have been building capacity for decades have largely been left out of the process.¹⁷ It is here we recognize the critical role of local universities and researchers not only for building local capacity more generally but also for facilitating change in reporting culture. Universities should further engage with community-based and grassroots organizations to facilitate

mutual learning and establish a repository of local knowledge that recognizes the value of failure, thereby helping to overcome the stigma surrounding it locally. Data in these repositories should be accessible to all local managers, planners, policymakers, researchers, and others to reduce the likelihood of repeating mistakes.¹⁶

We must also move away from obsessions over standardized outcomes and universal definitions of adaptation “success.” These obsessions stifle willingness to share heterogeneity in outcomes and limit the space for authentic dialogue around whose interests are being represented. Instead, we must change how we understand what constitutes “success” and “failure” by basing it on the metrics that are meaningful and valuable to different groups at the local scale and recognizing the diversity of voices.¹⁰ Empowering and developing the capabilities of local organizations and people to establish these metrics and make adaptation decisions will be invaluable. Universities can play another key role here because they can engage with and raise

the profiles of local actors by, for example, sharing the stories of local communities and organizations and raising awareness on local issues and power dynamics. This must, however, be a multi-scalar practice whereby global and powerful decision makers, donors, and national governments also become adaptation facilitators that challenge inequality and keep the voices of the most vulnerable in mind. After all, until powerful stakeholders recognize such issues, little change can be expected on the ground.

Focusing on success and ignoring or under-reporting failure are not unique to the adaptation field; they are also prominent in health, conservation, and education, among others. We fear that obsessions with success are stifling the capacity of implementers to self-reflect about what has or hasn't worked and why and, ultimately, how to improve outcomes in the future. We believe that transformations in individual and sectoral cultures are mutually reinforcing, and we challenge individual and organizational leaders to set precedents and model the change needed to create ripple effects throughout the adaptation, disaster management, and international development communities. Given what is at stake, hiding these failures from view is not an option.

REFERENCES

1. C.B. Field, V.R. Barros, D.J. Dokken, J.K. Mach, M.D. Mastrandrea, T.E. Bilir, M. Chatterjee, K.L. Ebi, Y.O. Estrada, and R.C. Genova, et al., eds. (2014). *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge University Press). <https://www.ipcc.ch/report/ar5/wg2/>.
2. Yeo, S. (2019). Where climate cash is flowing and why it's not enough. *Nature* 573, 328–331.
3. Donner, S.D., Kandlikar, M., and Webber, S. (2016). Measuring and tracking the flow of climate change adaptation aid to the developing world. *Environ. Res. Lett.* 11, 054006.
4. Climate Policy Initiative (2019). *Global Landscape of Climate Finance 2019*. <https://www.climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-2019/>.
5. Soanes, M., Rai, N., Steele, P., Shakya, C., and MacGregor, J. (2017). Delivering real change: getting international climate finance to the local level, IIED Working Paper. <https://pubs.iied.org/10178IIED/>.
6. Adger, W.N., and Barnett, J. (2009). Four reasons for concern about adaptation to climate change'. *Environ. Plan.* 41, 2800–2805.
7. E.L.F. Schipper, J. Ayers, H. Reid, S. Huq, and A. Rahman, eds. (2014). *Community-Based Adaptation to Climate Change: Scaling It Up* (Routledge).
8. Piggott-McKellar, A.E., McNamara, K.E., Nunn, P.D., and Watson, J.E.M. (2019). What are the barriers to successful community-based climate change adaptation? A review of grey literature. *Local Environ.* 24, 374–390.
9. Villanueva, P.S. (2011). Learning to ADAPT: monitoring and evaluation approaches in climate change adaptation and disaster risk reduction: challenges, gaps and ways forward, Strengthening Climate Resilience Discussion Paper 9. https://www.ids.ac.uk/download.php?file=files/dmfile/SilvaVillanueva_2012_Learning-to-ADAPTP92.pdf.
10. Dilling, L., Prakash, A., Zommers, Z., Ahmad, F., Singh, N., de Wit, S., Nalau, J., Daly, M., and Bowman, K. (2019). Is adaptation success a flawed concept? *Nat. Clim. Chang.* 9, 572–574.
11. McNamara, K.E., Clissold, R., Westoby, R., Piggott-McKellar, A., Kumar, R., Clarke, T., Namoumou, F., Areki, F., Joseph, E., Warrick, O., and Nunn, P. (2020). An assessment of community-based adaptation initiatives in the Pacific Islands. *Nat. Clim. Chang.* 10, 628–639.
12. Nunn, P.D., and Kumar, R. (2019). Cashless adaptation to climate change: unwelcome yet unavoidable? *One Earth.* 1, 31–34.
13. Westoby, R., McNamara, K.E., Kumar, R., and Nunn, P.D. (2020). From community-based to locally led adaptation: Evidence from Vanuatu. *Ambio* 49, 1466–1473.
14. Abdullah, A.N., Myers, B., Stacey, N., Zander, K.K., and Garnett, S.T. (2017). The impact of the expansion of shrimp aquaculture on livelihoods in coastal Bangladesh. *Environ. Dev. Sustain.* 19, 2093–2114.
15. Paprocki, K., and Cons, J. (2014). Life in a shrimp zone: aqua-and other cultures of Bangladesh's coastal landscape. *J. Peasant Stud.* 41, 1109–1130.
16. Catalano, A.S., Lyons-White, J., Mills, M.M., and Knight, A.T. (2019). Learning from published project failures in conservation. *Biol. Conserv.* 238, 1–10.
17. Khan, M., Mfitumukiza, D., and Huq, S. (2020). Capacity building for implementation of nationally determined contributions under the Paris Agreement. *Clim. Policy* 20, 499–510.