



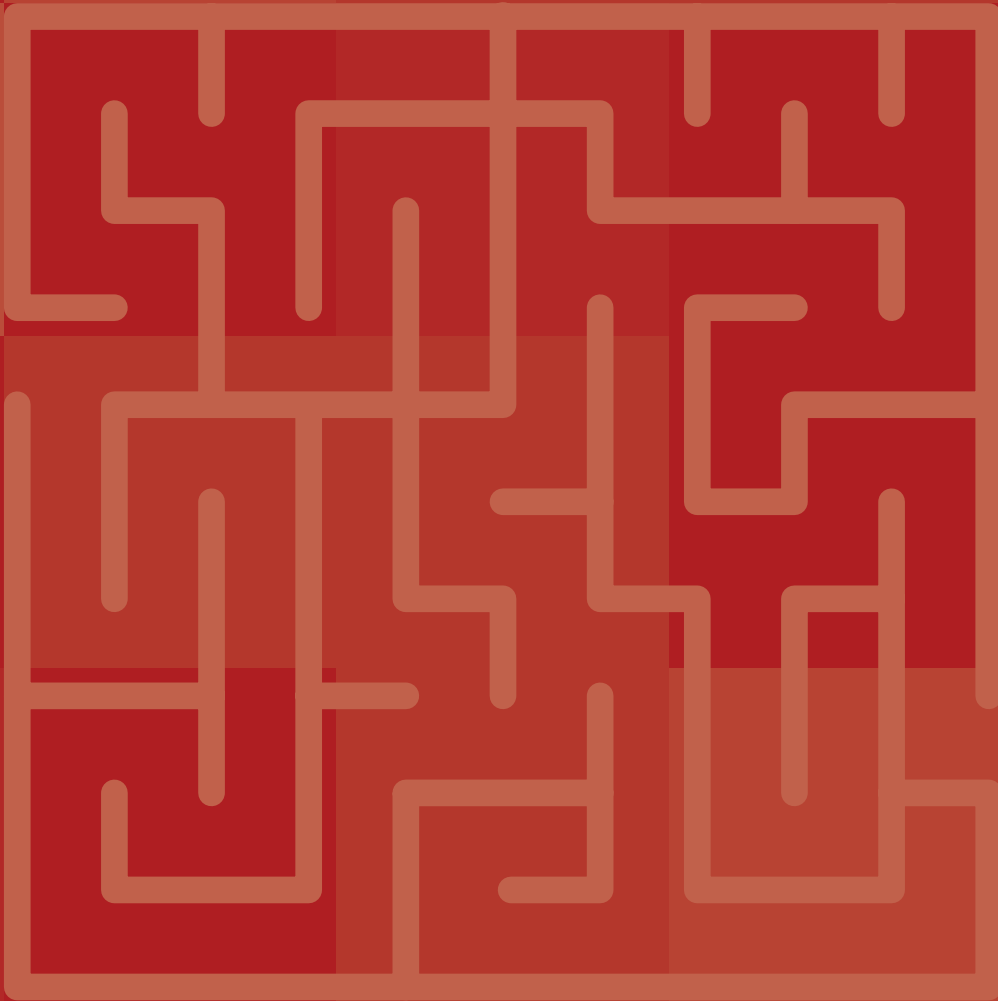
# Landscape Analysis Report on Innovation for Disaster Risk Management in Asia

The 'Landscape Analysis Report on Innovation for Disaster Risk Management in Asia' has been developed under the Asian Preparedness Partnership (APP) established by the Asian Disaster Preparedness Center (ADPC) with support from the Bill & Melinda Gates Foundation (the foundation).









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# Executive Summary



Disaster Risk Management (DRM) operations are growing in complexity and require innovative technologies, systems, approaches, and tools. More efficient and cost-effective solutions that are easily accessible and adaptable across the DRM cycle are also urgently needed. Furthermore, new ways of thinking and DRM innovation is increasingly important. Such innovations being applied in the DRM field can take many different forms, such as novel products or tools, services, processes or models, organizational forms or improvements to existing systems.

The Asian Disaster Preparedness Center (ADPC) serves as the secretariat of the Asian Preparedness Partnership (APP), a multi-stakeholder partnership established with support from the Bill & Melinda Gates Foundation (the foundation) and United States Agency for International Development Bureau of Humanitarian Assistance (USAID BHA). In December 2018, APP organized the “Innovations Forum for Safer Asia” in Kathmandu, Nepal. Building upon the recommendations resulting from the forum, this study aims to determine the scope and approach for APP activities going forward. This report presents a comprehensive evidence-base by assessing the current disaster landscape in each country, as well as at the regional and global levels. Furthermore, it aims to clarify the key barriers and enablers that must be navigated to accelerate a systematic approach for addressing DRM, in which innovations are identified, nurtured, scaled, and disseminated in a manner consistent with the localization agenda.

Drawing on relevant definitions of innovation from different development partners and stakeholders in the DRM field, a working definition of innovation for APP is proposed as follows:

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“Innovation is a process of identifying, nurturing, scaling, and disseminating new ideas, solutions, products, services or tools that simultaneously meet a social need and lead to new or improved capabilities and cost-effective utilization of assets and resources, especially for locally-led actions for DRM.”

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This study maps innovation initiatives, programs, and platforms at global and regional levels pioneered by UN agencies, international non-governmental organizations (INGOs), and government and local actors in selected countries of Asia. The findings reveal that there are common enabling factors as well as challenges and gaps concerning innovation across the region. The results identify five key enablers of innovation, namely **Partnerships, Policy Directives & Frameworks, Champions, Access to Funding** and **Expertise & Capacities**, which determine the current status of innovation for DRM in the respective focus countries. Furthermore, key challenges for facilitating innovative practices for DRM in Asia identified in the study are as follows:

- ⚙️ Lack of engagement in innovation among DRM actors
- ⚙️ Gap in collaboration and coordination between innovators and DRM actors
- ⚙️ Absence of dedicated social innovation mechanisms for DRM in the region
- ⚙️ Limited access to sustainable funding for innovations by local actors
- ⚙️ Current approaches for DRM innovation do not align with the localization agenda
- ⚙️ Local innovators lack a voice at regional and global levels

Broadly, the challenges identified point to the lack of any overall facilitator for coordinating the systematic identification, nurturing, and dissemination of innovations for DRM in the Asia region, particularly in a way that engages local actors. There is an opportunity for organizations and networks active in the region, such as ADPC or APP, to assume such a facilitation role for supporting and enhancing regional innovations for DRM.

Key recommendations from this study are categorized across three priority areas for supporting innovations for DRM. These include Partnerships & Mechanisms, Capacity & Expertise Development, and Dissemination. The specific recommendations are as follows:

- ⚙️ Recommendation 1: **Partner with relevant local organizations already engaged in innovation-related work in respective APP and program countries;**
- ⚙️ Recommendation 2: **Create an APP-led “Social Innovation DRM Grand Challenge” to serve as a mechanism for identification, nurturing, and scaling DRM innovations in Asia;**
- ⚙️ Recommendation 3: **Form a network for supporting DRM innovation, which provides meaningful access to resources and expertise for local actors;**
- ⚙️ Recommendation 4: **Facilitate “matchmaking” between local innovators, end-users, and DRM actors;**
- ⚙️ Recommendation 5: **Capitalize on APP’s role as a regional partnership that promotes South-South learning and knowledge exchange;**
- ⚙️ Recommendation 6: **Outreach and promote innovation for DRM at relevant regional and global platforms**



These recommendations serve as a guide for ADPC and APP to assume key roles as facilitators of DRM innovations in the region. They can be achieved through nurturing innovative approaches for locally-led DRM actions and establishing dissemination mechanisms for promoting innovative approaches and practices. These interventions would contribute to establishing innovative institutionalized, efficient, and cost-effective approaches for locally-led DRM actions. The overall intended impact of these interventions is to contribute to the overall goal of APP, specifically the establishment of “safer and well-prepared communities through locally-led DRM actions, so that disaster impacts on at-risk communities of Asia will be reduced.”





DRM operations are growing in complexity and require innovative technologies, approaches, and tools, as well as more efficient and cost-effective solutions that are easily accessible and adaptable across the DRM cycle. Today, communities are facing repeated disasters, and often formulating local solutions to manage them. New ways of thinking and innovation for DRM is increasingly important, which can take many “innovative” forms such as generating new knowledge, encouraging changes in behavior, and improving systematic processes for creating solutions. Additionally, the Sendai Framework for Disaster Risk Reduction (SFDRR) 2015-2030 emphasizes the “use and expansion of thematic platforms of cooperation, such as global technology pools and global systems to share know-how, innovation, and research and ensure access to technology and information on DRR.”<sup>1</sup>

In partnership with the foundation and USAID BHA, the APP was launched in August 2017, with representation from the government, local humanitarian networks, and the private sector in Cambodia, Myanmar, Nepal, Pakistan, the Philippines, and Sri Lanka (see Figure 1). Through APP+ approach the outreach also reaches to other countries such as Lao PDR, India, and Bangladesh. In line with the localization agenda of the World Humanitarian Summit and SFDRR, the APP strives to improve the interface and partnerships between governments, local humanitarian organizations (LHOs), and the private sector to enhance locally led disaster risk management actions.

Figure 1

**Focus Countries of APP**



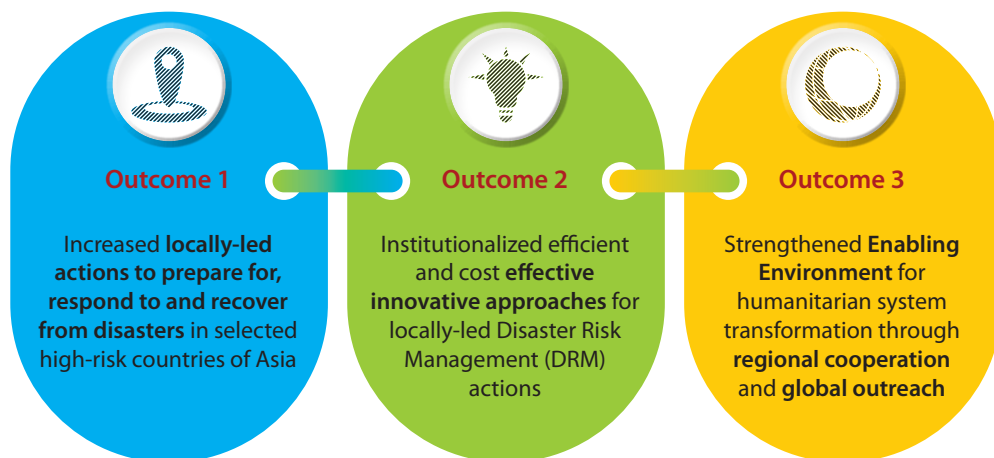
The APP promotes locally led disaster preparedness, response, and recovery actions through improved coordination mechanisms, strengthened humanitarian leadership, training and capacity development, systems transformation, innovation, south-south learning and knowledge exchange, and regional cooperation. The overall goal of the APP is: “Safer and well-prepared communities through locally-led disaster risk management (DRM) actions, so that disaster impacts on at-risk communities of Asia will be reduced.” The APP defines localization as “a process whereby local, sub-national and national humanitarian actors, namely governments, civil society and non-government organizations, the private sector, media, academia etc., take a lead role in a collaborative manner to plan and implement priority actions in disaster preparedness, humanitarian response, and recovery through mobilizing internal resources and external humanitarian funding.” The APP is scaling up and scaling out its outreach

<sup>1</sup> United Nations (2015). ‘Sendai Framework for Disaster Risk Reduction 2015 - 2030’. [https://www.preventionweb.net/files/43291\\_sendaiframeworkfordrr.pdf](https://www.preventionweb.net/files/43291_sendaiframeworkfordrr.pdf)

regionally and globally to achieve a greater impact on locally-led disaster preparedness, response, and recovery actions. This will be achieved via key interventions targeting three primary outcomes (see Figure 2).

Figure 2

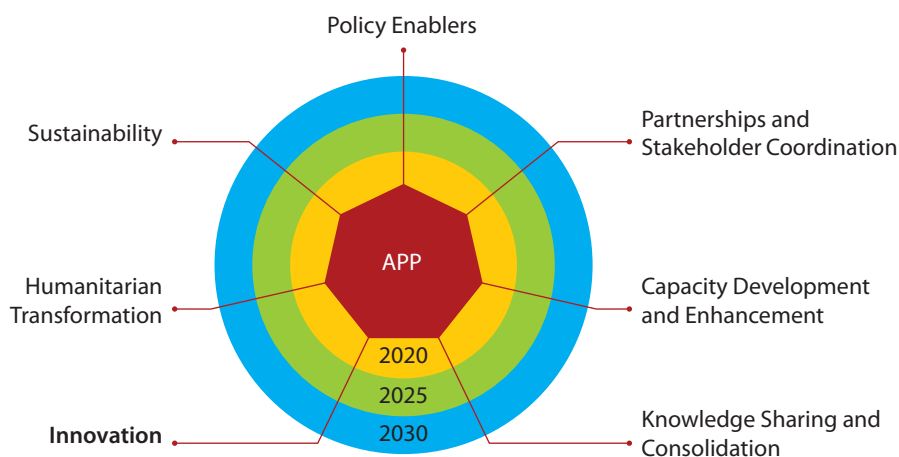
**Key Primary Outcomes of APP**



Aligning to the SFDRR, innovation has also been identified as one of the key seven dimensions of change for APP’s strategy as shown in Figure 3 below.

Figure 3

**Seven Dimensions of Change for the APP**



Through the establishment of a collaborative partnership, the APP envisages nurturing innovation for humanitarian actions and creating an enabling environment for institutionalizing innovative approaches for locally-led DRM actions across the region. In December 2018, ADPC, in its role as the Regional APP Secretariat, organized the “Innovations Forum for Safer Asia” in Kathmandu, Nepal to discuss transformational DRM ideas led by individuals, communities, and organizations. The key objectives of the forum were to: (1) share ideas of innovative practices and/or approaches in DRM in the context of the localization agenda, and (2) to explore the process for facilitating and scaling existing innovations in DRM utilizing the APP partnership. The forum was attended by over 50 representatives, including experts, practitioners, development partners, and APP member countries representing governments, local NGOs, academia, and private-sector networks. Representatives from other key program countries such as Bangladesh, India, and Ethiopia also attended the forum.

Additionally, as part of South-South learning and cooperation for DRM, the forum presented an opportunity to learn, adapt, and support innovative thinking across the region. The event provided a platform for sharing examples and case studies of innovations from across the region, which included Pakistan, the Philippines, Nepal, Bangladesh, and Sri Lanka. Examples were drawn from a range of sectors, including government, civil society, and the private sector. The forum explored various themes related to innovation in DRM and the humanitarian field, including what qualifies as innovation, nurturing innovation, dissemination, how to scale up/scale-out tools, products and ideas, and how to support the sustainability and financing of innovations.

Figure 4

**Participants from the Innovations Forum for a Safer Asia in Kathmandu, Nepal, December 2018**



In the closing remarks of the forum, Mr. Hans Guttman, Executive Director of ADPC, reiterated that the forum was a starting point, and as an organization ADPC would consider how innovative approaches can be applied in programs and projects even beyond the APP. Notably, he highlighted that trials and testing of innovations should not be completed in isolation, but noted that by involving relevant stakeholders throughout the process, the likelihood of scale up, scale out, uptake and sustainability would be enhanced. Finally, he informed the participants that the forum proceedings would be documented, particularly the outcomes of the group discussions, and disseminated not just as a report but as a source of information for reference in planning initiatives on innovation in the future.

Expanding upon the initial findings and interest generated by the aforementioned forum, this landscape study draws upon definitions and best practices that are innovative at the regional and global levels. It maps existing initiatives and potential entry points in the APP countries and other selected Asian countries. Overall, the study will inform how innovation is defined in the APP context and will provide the evidence-base required to inform the approach and scope for APP innovation efforts moving forward.

# Scope and Objectives



The overall goal of this study is to map and draw on key learnings from existing innovation initiatives at global, regional, and country levels to determine the scope of potential future innovation-related APP activities for DRM.

By studying existing literature and practices related to innovation, the objectives of this landscape analysis study are as follows:

- ⚙ Synthesize current definitions of innovation in the context of DRM by drawing on experiences from relevant humanitarian and development partners at the global, regional and country levels;
- ⚙ Propose a working definition of innovation for DRM that is consistent with APP's approach for locally-led DRM actions;
- ⚙ Map existing initiatives (including good practices, challenges, and limitations) and potential entry points for facilitating innovative practices in the Asia region, with a focus on the APP countries; and
- ⚙ Identify key recommendations through which APP can assume a facilitating role for identifying and nurturing innovations, as well as establishing dissemination mechanisms for innovative approaches for locally-led DRM actions and practices in the region.

The following methodologies were applied in this landscape analysis:

- ⚙ Desk research and secondary data collection
- ⚙ Key informant interviews (KIIs) with selected institutions, both in-person and online
- ⚙ Focus group discussions (FGDs)

Primary data collection through KIIs and FGDs was conducted during a field mission to Kathmandu in February 2020. Other interviews were conducted virtually via Skype or telephone due to restrictions arising from the COVID-19 pandemic. As a result, there were fewer opportunities for networking and interactive discussions during the data collection process. Additionally, some agencies actively engaged in the COVID-19 response were unable to respond in detail to requests for information.

Finally, while the landscape analysis section of this study is based on findings derived from primary and secondary data, ADPC and the authors of this report acknowledge limitations as the analysis includes subjective views of the current status in each country and for the region. The findings were reviewed by stakeholders and representatives from the target countries in order to cross-check, verify and reduce subjectivities in the findings.

# Defining Innovation in the Disaster Risk Management and Humanitarian Context



To contextualize the concept of innovation, this section of the study explores and summarizes existing definitions of innovation. First, it outlines general perspectives of innovation as it is commonly understood across different contemporary fields and sectors, followed by more specific understandings of “social innovation,” as well as specific definitions of the term “innovation” that have been adopted in the humanitarian and disaster risk management fields.

## General Definitions of Innovation

**Innovation** is broadly defined as “the introduction of something new,”<sup>2</sup> and “a new idea, way of doing something that has been introduced or discovered.”<sup>3</sup> Innovation has also been understood as a “process of creating value by applying novel solutions to meaningful problems.”<sup>4</sup>

Innovation is commonly linked with creativity, which has been historically associated with the field of art throughout the 20th century, but has since grown to include science, technology, and other disciplines. Creativity has been described as the “infinite source of innovation.”<sup>5</sup> However, innovation differs from creativity in that it includes a practical application or implementation of a “process that transforms creative ideas into practical products, services or processes that command greater commercial or societal value.”<sup>6</sup>

Specific types of innovation include products, services, processes, production methods, organizational forms or a vital improvement to existing systems.<sup>7</sup> A more detailed overview of these different types of innovation is summarized in Figure 5.

Commentators have also stressed the importance of distinguishing innovation from invention<sup>8</sup>: “Innovation is not the same as invention: it need not involve the creation of something absolutely novel, but often takes the form of adapting something to a different context.”<sup>9</sup>

2 Merriam-Webster Dictionary. ‘Innovation’. <https://www.merriam-webster.com/dictionary/innovation>

3 Oxford Advanced Learner’s Dictionary. ‘Innovation’. <https://www.oxfordlearnersdictionaries.com/definition/english/innovation>

4 Dwyer, J. (2019). ‘What is innovation: why almost everyone defines it wrong’. Digital Intent, accessed 01/05/20. <https://digintent.com/what-is-innovation>

5 EC. (2008c). ‘Lifelong Learning for Creativity and Innovation.’ A Background Paper: Slovenian EU Council Presidency. <http://www.sac.smm.lt/images/12%20Vertimas%20SAC%20Creativity%20and%20innovation%20-%20SI%20Presidency%20paper%20anglu%20k.pdf>

6 Shavinina, L. (2013). ‘The Routledge International Handbook of Innovation Education.’

7 IMP<sup>3</sup>rove - European Innovation Management Academy. [https://www.improve-innovation.eu/sat-online-help/assess-quick-question-q85b\\_succ/](https://www.improve-innovation.eu/sat-online-help/assess-quick-question-q85b_succ/)

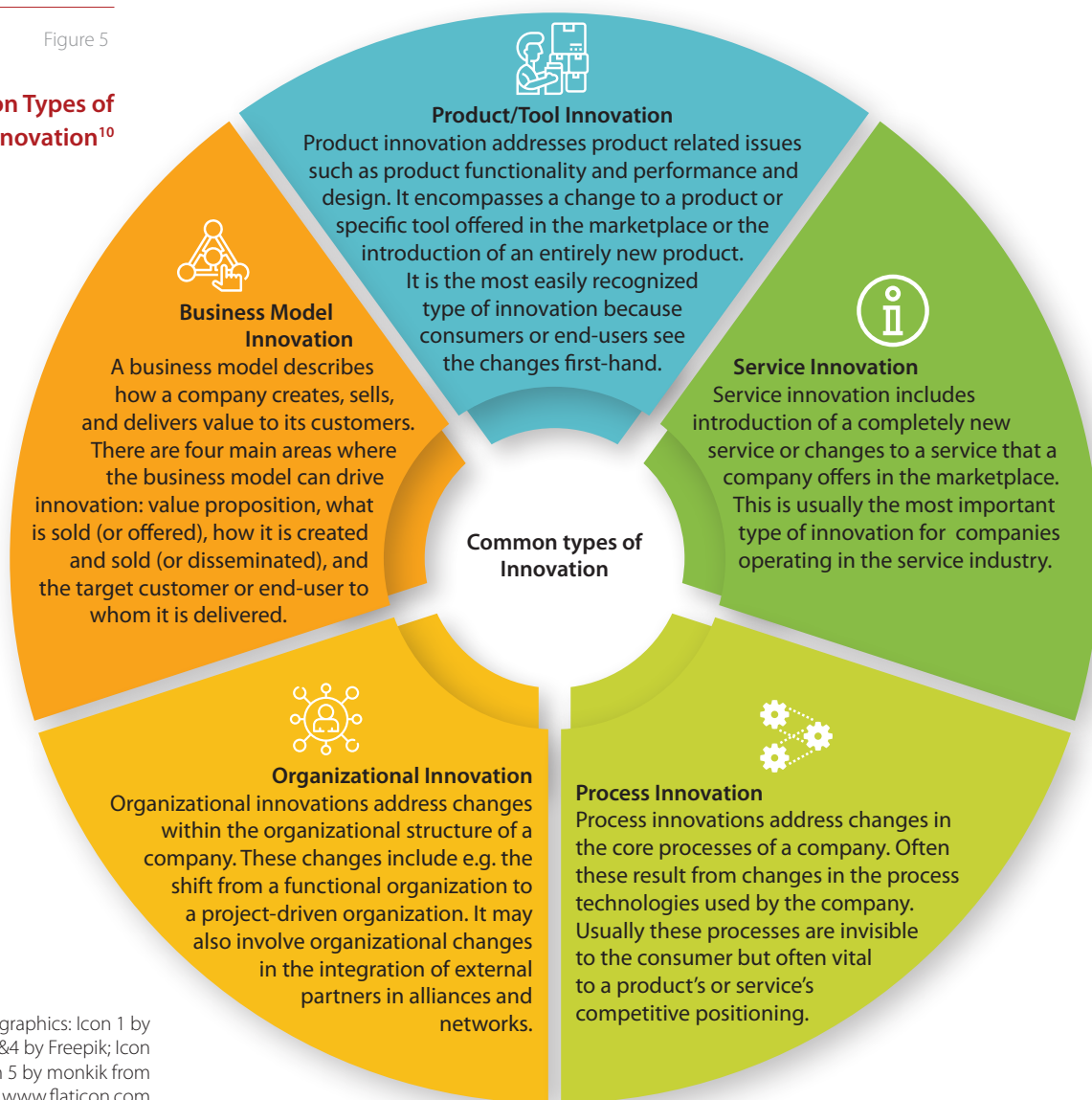
8 <https://www.businessinsider.com/this-is-the-difference-between-invention-and-innovation-2012-4>

9 [https://www.unocha.org/sites/dms/Documents/OP9\\_Understanding%20Innovation\\_web.pdf](https://www.unocha.org/sites/dms/Documents/OP9_Understanding%20Innovation_web.pdf)



Figure 5

**Common Types of Innovation<sup>10</sup>**



Credit for graphics: Icon 1 by Eucalypt; Icon 2&4 by Freepik; Icon 3 by Becris; Icon 5 by monkik from www.flaticon.com

“If invention is a pebble tossed in the pond, innovation is the rippling effect that pebble causes. Someone has to toss the pebble. That’s the inventor. Someone has to recognize the ripple will eventually become a wave. That’s the entrepreneur.”<sup>11</sup>

10 Source: Updated from IMP<sup>3</sup>rove - European Innovation Management Academy. [https://www.improve-innovation.eu/sat-online-help/assess-quick-question-q85b\\_succ/](https://www.improve-innovation.eu/sat-online-help/assess-quick-question-q85b_succ/)

11 Quotation from entrepreneur Tom Grasty cited at: <https://channels.theinnovationenterprise.com/articles/stop-confusing-innovation-and-invention>

More recently, the concept of innovation has been applied to a range of specialized contexts. For example, innovative technological solutions have been applied across a variety of fields and sectors, including manufacturing, logistics, medicine, media, and creative industries.<sup>12</sup> The contemporary concept of innovation can also be linked to management theory, which promotes innovation for businesses, and explores how the corporate sector and businesses move from problem identification towards solutions. Popular literature has highlighted innovation as an approach that is actively promoted within some of the world's top private companies like Google, Apple, and Facebook.<sup>13</sup>

Innovation has also been used to address social challenges through a concept called “**social innovation**,” which has been adopted by actors working in the fields of corporate sustainability and the humanitarian sector.<sup>14</sup> Some describe innovation as a means of tackling pertinent issues, and describe innovation as an approach that “drives growth and helps address social challenges.”<sup>15</sup>

Despite the growing interest in social innovation among policymakers, foundations, researchers, and academic institutions around the world, there remains a lack of consensus on common definitions of social innovation.<sup>16</sup> The Young Foundation provides the following consolidated definition of social innovation based on its comprehensive literature review of the term:

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“Social innovations are new solutions (e.g., products, services, models, markets, processes, etc.) that simultaneously meet a social need (more effectively than existing solutions) and lead to new or improved capabilities and relationships and better use of assets and resources. In other words, social innovations are both good for society and enhance society’s capacity to act.”<sup>17</sup>

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12 Shavinina, L. (2013). ‘The Routledge International Handbook of Innovation Education.’

13 Johnson, S. (2011). ‘Where Good Ideas Come From: The Seven Patterns of Innovation.’ New York: Penguin.

14 Brown, T. and Wyatt, J. (2010). ‘Design Thinking for Social Innovation.’ Stanford Social Innovation Review.

15 OECD (2012). ‘Innovation for Development.’ <https://www.oecd.org/innovation/inno/50586251.pdf>

16 The Young Foundation (2012). ‘Social Innovation Overview: A deliverable of the project: The theoretical, empirical and policy foundations for building social innovation in Europe.’ European Commission – 7th Framework Programme, Brussels: European Commission.

17 Murray, R., Caulier-Grice, J. and Mulgan, G. (2010). ‘The Open Book of Social Innovation.’ The Young Foundation. [http://www.diskutiere.de/diskutiere\\_wp/wp-content/uploads/openbook\\_socialinnovation.pdf](http://www.diskutiere.de/diskutiere_wp/wp-content/uploads/openbook_socialinnovation.pdf)

Numerous commentators highlight the importance of knowledge exchange and sharing of ideas as a key facet of innovation: “Social innovation is distinctive both in its outcomes and in its relationships, in the new forms of cooperation and collaboration that it brings.”<sup>18</sup> The importance of “cross-fertilization across sectors” for innovation, recognizing that breakthrough ideas often come from collaborations among people of diverse backgrounds and different sectors, has also been highlighted.<sup>19</sup>

### Definitions of Innovation in the Humanitarian Sector

According a publication from the United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA), despite widespread efforts to promote innovative practices and programs, “innovation remains poorly understood in some humanitarian circles and its meaning and value remain contested.”<sup>20</sup> Nonetheless, it is possible to identify and consider definitions of innovation that have been adopted in the humanitarian context. The UNOCHA report describes a working understanding of innovation as, “a means of adaptation and improvement through finding and scaling solutions to problems, in the form of products, processes or wider business models.”<sup>21</sup>

It is also pertinent to consider the Organisation for Economic Co-operation and Development (OECD)’s LEED Forum on Social Innovations definition, which highlights social innovation as distinct from economic innovation. OECD distinguishes social innovation from an economic policy perspective: “The key distinction is that social innovation deals with improving the welfare of individuals and community... it is not about introducing new types of production or exploiting new markets for the sake of exploiting them.”<sup>22</sup> It also highlights the interlinkages between social innovation and development, particularly at the local level: “Social innovation seeks new answers to social problems by identifying and delivering new services that improve the quality of life of individuals and communities.”

Meanwhile, the Active Learning Network for Accountability and Performance in Humanitarian Action (ALNAP), in partnership with Enhancing Learning and Research for Humanitarian Assistance’s (ELRHA) Humanitarian Innovation Fund (HIF), succinctly describes innovation as “an iterative process that identifies, adjusts and diffuses ideas for improving humanitarian action.”<sup>23</sup>

There are few examples of definitions of innovation specific to DRM. Notably, a compendium of innovations for DRM published by the United Nations University (UNU) categorized the solutions as “products” and “approaches.” These ranged from “high-tech products” to “contextual approaches, traditional ideas, and social science insights, offering solutions that do not require large budgets or the use of advanced technology.”<sup>24</sup> This high-level study served to highlight the plethora of different innovations and the breadth of what can be considered as “innovation” in this field.

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18 Ibid.

19 Johnson, S. (2011). ‘Where Good Ideas Come From: The Seven Patterns of Innovation.’ New York: Penguin.

20 UNOCHA (2014). ‘Humanitarian Innovation: The State of the Art.’ [https://www.unocha.org/sites/dms/Documents/OP9\\_Understanding%20Innovation\\_web.pdf](https://www.unocha.org/sites/dms/Documents/OP9_Understanding%20Innovation_web.pdf)

21 Ibid.

22 Committee for Scientific and Technological Policy (2011). ‘Fostering Innovation to Address Social Challenges.’ OECD, Paris.

23 Obrecht, A. and Warner, A. T. (2016). ‘More than just luck: Innovation in humanitarian action.’ HIF-ALNAP: <https://www.alnap.org/help-library/more-than-just-luck-innovation-in-humanitarian-action>

24 United Nations University. (2019). ‘30 innovations for Disaster Risk Reduction.’ <https://reliefweb.int/report/world/30-innovations-disaster-risk-reduction>

### Working Definition of Innovation for APP

Overall, it is evident that definitions of innovation, specifically social innovation, remain fluid and subject to changing understandings of the concept across different fields of concern, sectors, and organizations. Notably, definitions of innovation relevant to the humanitarian sector remain contested with few definitive examples of innovation relating to DRM specifically. Nonetheless, there is a broad recognition that innovation can be incorporated into programs and planning in the humanitarian sector as an effective approach for positively addressing pertinent social challenges, including for those agencies and organizations working specifically in DRM.

Brainstorming sessions at the APP Forum on Innovation in December 2018 helped clarify elements of innovation particularly relevant to DRM and identify clear linkages between innovation and the localization agenda. It established that APP as a multi-stakeholder platform provides a “safe place” for creativity and innovation. The findings compiled in this study have helped to build upon these initial findings, which were discussed among APP partners. With the goal of using a definition of innovation consistent with the APP approach of localization in the context of DRM, the following definition has been developed:

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“Innovation is a process of identifying, nurturing, scaling, and disseminating new ideas, solutions, products, services or tools that simultaneously meet a social need and lead to new or improved capabilities and cost-effective utilization of assets and resources, especially for locally-led actions for DRM.”

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The above statement draws upon definitions of general innovation, social innovation, and those conceptualizations of the term more directly applicable to the humanitarian and development fields explored earlier in this section of the study. Notably, the APP approach for innovation focuses on innovation as a process, emphasizes the role of local actors, and highlights the fact that innovations should address challenges specifically related to disasters. This working definition of innovation will be further refined and contextualized in consultation with local partners and other relevant stakeholders.

# Existing Innovation Platforms and Initiatives and the Regional and Global Level



This section provides an overview of existing innovation platforms and initiatives at the global and regional levels, including good practices, challenges, and limitations. United Nations (UN) agencies, international non-governmental organizations (INGOs), and governments all have dedicated staff, innovation labs, challenge grants, and/or other initiatives aimed at developing new ways of addressing problems and adapting to opportunities to varying degrees. Meanwhile, a growing number of donors, private sector actors, universities, and others outside of the traditional humanitarian system have entered into innovation partnerships.<sup>25</sup> This section includes examples of innovation initiatives with a focus on those related to DRM and broader humanitarian themes. Many of the examples included are “social innovation” platforms; however, to feature a wider array of initiatives, technology and science-based cases are also featured.

As noted in the previous section, **OECD**, through its **LEED Forum on Social Innovations**, has been a strong proponent of social innovation in the humanitarian sector. Notably, at the policy level, this platform has promoted international dissemination and transfer of best policies and practices in regard to social innovation.<sup>26</sup>

**The Active Learning Network for Accountability and Performance in Humanitarian Action (ALNAP)** is widely considered as one of the first sources of consolidated thinking on innovation within the humanitarian system.<sup>27</sup> The network conducted an initial “Innovations Fair” in November 2009, followed by a series of follow up meetings showcasing 23 real-world examples of innovations that have helped shift how humanitarian action is delivered. Since then, an increasing number of organizations, including the World Food Programme (WFP) and OCHA, have set up innovation grants. Similar initiatives have also been established by numerous other UN agencies, reflecting a formal adoption of innovation processes to stimulate new thinking on the provision of humanitarian assistance.<sup>28</sup>

The ALNAP has also collaborated with other key actors in the innovation ecosystem, including Enhancing Learning and Research for Humanitarian Assistance (ELRHA) for research to define and understand what successful innovation looks like in the humanitarian sector.<sup>29</sup> ELRHA has maintained the **Humanitarian Innovation Fund (HIF)** since 2011. The HIF aims to improve outcomes for people affected by humanitarian crises by identifying, nurturing, and sharing more effective and scalable solutions. ELRHA’s investment demonstrated the organization’s understanding regarding the potential of innovation in humanitarian response. The HIF is a globally-recognized program that has taken the lead on the development and testing of innovation-focused initiatives in the humanitarian system. It has supported more than 150 projects across varying stages of the innovation process, from early problem recognition to the scaling-up of proven innovations for direct application in humanitarian crises.

The HIF also maintains the Humanitarian Innovation Guide<sup>30</sup> as an online resource to provide targeted support to individuals and organizations attempting to develop innovative solutions to the challenges facing humanitarian assistance, resulting in a more effective humanitarian response. It also documents the innovation process, which forms

25 Betts, A. and Bloom, L. ‘Humanitarian Innovation: The State of the Art.’ UNOCHA. [https://www.unocha.org/sites/unocha/files/Humanitarian%20Innovation%20The%20State%20of%20the%20Art\\_0.pdf](https://www.unocha.org/sites/unocha/files/Humanitarian%20Innovation%20The%20State%20of%20the%20Art_0.pdf)

26 <https://www.oecd.org/fr/cfe/leed/forum-social-innovations.htm>

27 Betts, A. and Bloom, L. (2014). ‘Humanitarian Innovation: The State of the Art.’ UNOCHA.

28 DFID (2012). ‘Promoting Innovation and Evidence-Based Approaches to Building Resilience and Responding to Humanitarian Crisis.’ DFID Strategy Paper. London: DFID.

29 Obrecht, A. and Warner, A. T. (2016). ‘More than just luck: Innovation in humanitarian action.’ HIF-ALNAP.

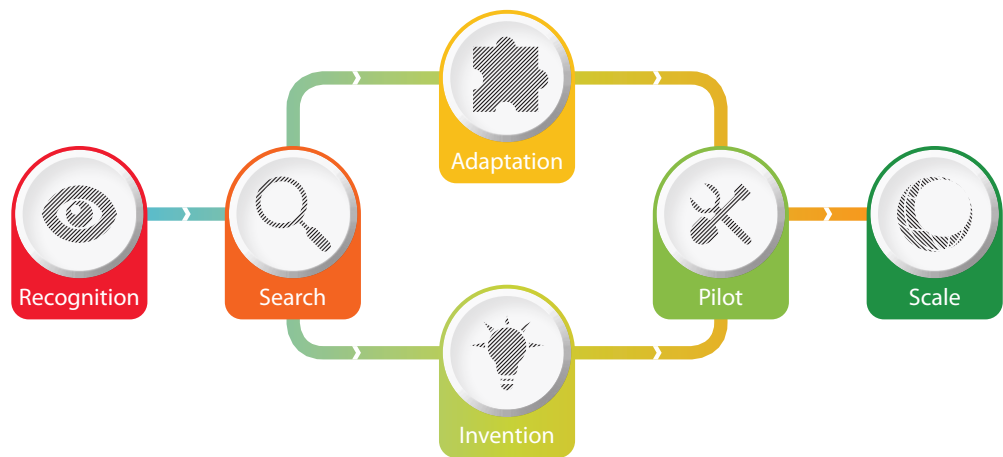
30 <https://higuide.elrha.org/>

the basis of ELRHA and HIF's approach to fostering innovations. The innovation process outlined by HIF (shown in Figure 6) synthesizes innovation approaches from different organizations and resources, it is comprised of the following steps:<sup>31</sup>

- ⚙️ **Recognition** of a specific problem or opportunity.
- ⚙️ **Search** for existing solutions to the problem.
- ⚙️ **Adaptation** of a solution from elsewhere that requires significant rethinking of certain elements.
- ⚙️ **Invention** of a solution through the generation of new ideas.
- ⚙️ **Pilot** or test a potential solution to learn whether and how it works in a complex real-world environment.
- ⚙️ **Scale** the impact of innovation to better match the size of the social problem it seeks to address.<sup>32</sup>

Figure 6

**Humanitarian Innovation Fund (HIF) Innovation Process<sup>33</sup>**



There are numerous examples of initiatives, projects, and programs adopting different aspects of innovation across the UN ecosystem, pioneered by respective agencies. This study highlights selected UN-led innovation mechanisms and platforms that specifically address disaster management issues as well as those that provide examples of systematic approaches for identifying, nurturing, and disseminating innovations.

The **Agenda for Humanity**, which identifies major areas for action and change, was adopted at the World Humanitarian Summit (WHS) held in Istanbul, Turkey, in May 2016. The event invited stakeholders - local, national or international, public or private - to draw upon comparative advantages and to work collaboratively towards outcomes by promoting a stronger focus on innovation in the humanitarian sector.<sup>33</sup>

As the primary UN agency responsible for the World Humanitarian Summit (WHS), **OCHA**, led by its Policy Analysis and Innovation Unit, has had substantial influence in bringing greater attention to innovation as a key concern for the entire sector. Rather

31 <https://higuide.elrha.org/toolkits/get-started/innovation-process/>

32 <https://www.elrha.org/news/introducing-our-new-humanitarian-innovation-guide-by-an-innovation-sceptic/>

33 United Nations (2016). One humanity: shared responsibility - Report of the Secretary-General for the World Humanitarian Summit. [https://reliefweb.int/sites/reliefweb.int/files/resources/Secretary-General's%20Report%20for%20WHS%202016%20\(Advance%20Unedited%20Draft\).pdf](https://reliefweb.int/sites/reliefweb.int/files/resources/Secretary-General's%20Report%20for%20WHS%202016%20(Advance%20Unedited%20Draft).pdf)

than implementing its innovations, OCHA is well placed to support innovative actors and promote innovation through its role as a convener and coordinator.<sup>34</sup> Furthermore, OCHA Policy Briefs have helped capture and influence the discourse around innovation in humanitarian aid.

The **UN Innovation Network (UNIN)** is an informal, collaborative community of UN innovators interested in sharing their expertise and experience with others to promote and advance innovation within the UN System. The Network also engages with senior UN leaders and advises them on how to build structures to promote innovation, activate innovation partnerships, and create a culture of innovation in their organizations. Non-UN members are also invited to join as observers. The network was founded in 2015 and is jointly chaired by UNICEF and WFP. The UNIN is open to innovators from all UN Agencies, as well as external partners. More than 2,000 colleagues from over 65 UN entities in over 120 countries have joined the network.<sup>35</sup> The UNIN website serves as a useful aggregator of the various UN-led innovations across numerous developmental and economic themes.

The **United Nations High Commissioner for Refugees (UNHCR)** also promotes innovation in the humanitarian sector. One of UNHCR's four strategic objectives of 2014–2018 is to “develop and expand proven and innovative ways of supporting peoples’ economic self-reliance.” Broadly, the UNHCR embraces a five-step approach to innovation: 1) Define the challenge; 2) Identify solutions; 3) Test solutions; 4) Refine solutions; 5) Scale solutions.<sup>36</sup> They aim to support innovations “with and for refugees” on the thematic areas of emergencies, education, technology, logistics, and energy, among others. The UNHCR's dedicated Innovation Service is tasked to work with different divisions across the agency to foster innovative approaches across all programs. The service works with innovation labs in nine locations worldwide. The UNHCR staff members or affiliate workforce are eligible to apply to the “Innovation Fund” to receive support in the form of financial and social capital, support for experimentation, and mentorship across four areas of work: Data and Artificial Intelligence, Inclusive Intelligence, Modelling and Simulation, and Storytelling and Culture.<sup>37</sup>

The **United Nations Development Programme (UNDP)** is also a major proponent of the application of innovation for addressing pertinent social and economic development challenges, including those related to disaster management. This application includes both country and project-specific interventions (a number of which are referenced in the next section of this study focused on individual countries). With the support of the Government of Denmark, the UNDP established the Innovation Facility in 2014 as a global mechanism to support innovation for development. The Facility provides technical support and funding to UNDP country offices across all regions to test frontier technologies and new approaches to achieve better results. It has invested in over 140 country-level experiments across 87 countries and territories since its inception.<sup>38</sup> The Facility's portfolio is rooted in the 2030 Agenda for Sustainable Development and explores current and emerging service lines to eradicate poverty, protect the planet, prevent violent conflict, manage climate change and disaster risks, and advance gender equality, among other development challenges.

34 Global Public Policy Institute (GPPi) / INSPIRE Consortium (2016). Mapping Innovation in Humanitarian Action. <https://europa.eu/capacity4dev/file/29617/download?token=FW9RrOcm>

35 <https://www.uninnovation.network/>

36 UNHCR Innovation Service (2017). ‘A brief innovation glossary’. <https://www.unhcr.org/innovation/wp-content/uploads/2017/07/UNHCRInnovation-Glossary.pdf>

37 <https://www.unhcr.org/innovation/innovation-fund/>

38 <https://www.undp.org/content/undp/en/home/2030-agenda-for-sustainable-development/partnerships/sdg-finance--private-sector/innovation.html>



The UNDP has also partnered with the Citi Foundation to run the **Youth Co: Lab**, an Asia-Pacific regional initiative.<sup>39</sup> The Youth Co: Lab has been implemented in 25 countries and territories across the Asia Pacific. These countries include Australia, Bangladesh, Bhutan, Cambodia, China, Fiji, Hong Kong (SAR), Indonesia, India, Japan, Malaysia, the Maldives, Mongolia, Nepal, Pakistan, the Philippines, Samoa, Singapore, Solomon Islands, South Korea, Sri Lanka, Thailand, Timor Leste, Vanuatu, and Vietnam. The lab has been launched to empower and invest in youth, so they can accelerate the implementation of the Sustainable Development Goals (SDGs) through leadership, social innovation, and social entrepreneurship, as well as take part in driving the economy and solving regional challenges.

The **United Nations International Children's Fund's (UNICEF)** Office of Innovation uses technology to address the biggest challenges facing children today. The UNICEF Innovation Fund is a vehicle modeled on the support and analysis approaches of successful venture investment structures, that will quickly assess, fund, and scale innovations, both internal and external to UNICEF.<sup>40</sup> The first stage of the fund offers support through investments in the form of small grants, followed by venture capitals (VC) such as equity investments. UNICEF has positioned itself strongly in terms of promoting innovation in its work and across the sector with a network of 14 Innovation Labs around the world, a dedicated Innovation Unit in New York, a Global Innovation Centre in Nairobi, and additional teams in San Francisco and Copenhagen. Innovations supported by UNICEF focus on the thematic areas of children, health, education, and development.

World Vision was one of a few selected NGOs tasked to lead the design and shape of the structure and mission of a new multi-stakeholder **Global Alliance for Humanitarian Innovation (GAHI)**, in preparation for its launch and rollout during the WHS in 2016. GAHI aimed to connect relevant stakeholders by matching problems to people that might solve them, mobilize social, intellectual, and financial resources, and amplify change by sharing knowledge of what works.<sup>41</sup>

World Vision continued with its engagement and participation in GAHI after the launch to share learnings and promote the adaptation of innovative solutions to humanitarian challenges across the sector. The alliance brings together a wide range of actors from academia, the private sector, and local and international civil society to champion innovation in humanitarian crisis response.<sup>42</sup> Additionally, World Vision has pioneered innovation initiatives at the country level, including in Nepal, which is featured in this report.

**The Start Network** was established in 2010. It comprises 41 member INGOs and national NGOs, and 7,000 partners in 200 countries and territories worldwide. They consider slow and reactive funding, centralized decision-making, and an aversion to change to be the greatest systemic problems in the humanitarian sector.<sup>43</sup> The Start Network believes in facilitating change through three approaches: 1) promoting a proactive model in humanitarian financing, 2) building an equal system that provides power and decision-making to actors in the frontline, and 3) enabling collective innovation to address humanitarian problems at local and international levels.

39 <https://www.youthcolab.org/about>

40 <https://www.unicef.org/innovation/what-we-do-new>

41 <https://www.agendaforhumanity.org/initiatives/3854>

42 World Humanitarian Summit (2016). 'Together We Stand'. <https://www.wvi.org/sites/default/files/Together%20We%20Stand%20PDF-ilovepdf-compressed.pdf>

43 <https://startnetwork.org/about-us>

The network also includes localization as one of its key strategies. They apply “learning by doing” to promote cooperation across networks.<sup>44</sup> Specifically, the Disaster and Emergencies Preparedness Programme (DEPP) worked with local, national, and international actors to strengthen capacity and better prepare for disasters. The program also supports national NGOs in provisions for flexible funding, supports their access to international coordination platforms, and helps partners join existing networks or establish their own national networks. The program created national DEPP Innovation Labs in Bangladesh, Jordan, Kenya, and the Philippines to identify and support local innovators and their solutions to humanitarian challenges.<sup>45</sup> Overall, the Start Network strives to construct a decentralized network of regional and national hubs that are able to present locally-led solutions.<sup>46,47</sup>

Another key strategy of the network is “Collective Innovation.” This includes carrying out experiments in early action, locally created innovation in disaster preparedness, and technology platforms. The goal of these actions is to establish a platform to share services and expertise and promote the scaling of local innovation.<sup>48</sup> They seek to develop innovation at the local level with the understanding that those at the frontline of any given challenge are better equipped to solve them. This strategy includes establishing partnerships across the private sector and civil society because these sectors can introduce concepts that have been thoroughly tested in other contexts. Their current innovation focus includes the following: 1) Shifting to a risk finance approach that ensures predictable and early funding to mitigate impact (e.g., African Risk Capacity’s Replica and Drought Financing Facility), 2) Providing local level support mechanisms to promote local innovations in disaster preparedness (e.g., Disasters and Emergencies Preparedness Programme (DEPP) Innovation Labs), 2) Promoting innovation in the collective development, collaboration, and learning stages of networks, and 3) Investing in technology where it will have the greatest impact such as transparency and collaboration.<sup>49</sup>

The **Response Innovation Lab (RIL)** was founded following the 2015 earthquake in Nepal. The lab started as the Nepal Innovation Lab with a focus on engaging an ecosystem of start-ups, social entrepreneurs, researchers, and other non-traditional actors that have the potential and capacity to provide innovative solutions in emergency response. The RIL’s global partnerships include World Vision, Oxfam, Save the Children, Civic, George Washington University, and the Centre for Humanitarian Leadership as Founding Members.

The lab has since opened locations in Jordan, Uganda, Iraq, and Somalia, and mapped four humanitarian innovation ecosystems.<sup>50</sup> It aims to address real problems, with real people, in real-time. The lab approaches DRM by examining the private sector and how it applies creative and innovative product development on the end-user experience and studies how it can be applied in the humanitarian sector.<sup>51</sup> Based on these findings, it builds creative spaces that foster cooperation with the end-users and connects the skills of the local private sector, academics, and community organizations. Their key focus is on solutions from the grassroots level that are initiated, evaluated, and improved within the local context. Once established, the RIL Country Labs support national initiatives in developing, piloting, and scaling innovations that address context-specific problems

44 <https://startnetwork.org/localisation>

45 <https://startnetwork.org/depp-innovation-labs>

46 <https://startnetwork.org/localisation>

47 <https://startnetwork.org/localisation>

48 <https://startnetwork.org/collective-innovation>

49 <https://startnetwork.org/collective-innovation>

50 <https://www.responseinnovationlab.com/history>

51 <https://solutionscenter.nethope.org/resources/webinar-recap-world-visions-response-innovation-lab>

or barriers to aid delivery and community recovery or resilience.<sup>52</sup> The lab also seeks to strengthen response-level humanitarian innovation ecosystems to be more inclusive, collaborative, and effective.

Additionally, the RIL convenes, brokers, matches, and supports in order to address challenges in humanitarian settings, including sourcing solutions and supporting their development and roll-out.<sup>53</sup> The “convene” function seeks to promote collaboration between traditional humanitarian actors, local civil society organizations, universities and research centers, social entrepreneurs, innovation hubs, and private enterprises from across the respective countries.

Their “brokering and matchmaking” modality builds connections between problem-holders and solution providers. This approach entails identifying available solutions to challenges from local sources or other humanitarian contexts so that they can be tailored to the local situation. The “MatchMaker” tool that they have developed allows these solutions to be submitted online. The RIL staff consults with their network of experts and the research from innovation databases to generate a collection of viable solutions to the corresponding challenge. The approach includes linking actors to external capacity-building resources and expertise to improve design and management skills, providing specialized tools and training to support innovation in the humanitarian context.

It is anticipated that about 190 countries from all over the world will participate in the **Expo 2020 Dubai** in the United Arab Emirates. Expo 2020 Dubai is a World Expo set to take place from October 2021 to March 2022. It was originally planned to take place 1 October 2020 to 31 March 2021, but due to the COVID-19 pandemic it was postponed by one year. The Expo is intended to be a global destination where attendees can learn, innovate, create, and have fun by sharing ideas and working together. Each Expo revolves around its own theme to leave a lasting impact on the path of human progress, thus making each Expo a once-in-a-lifetime experience. Expo 2020 Dubai will be the first World Expo ever hosted in the Middle East, Africa, and South Asia (MEASA), and the goal is to trigger a long-term effect in the region and globe to inspire the next generation.

In line with the theme, “Connecting Minds, Creating the Future,” Expo 2020 Dubai provides a platform to encourage creativity, innovation, and collaboration in the areas of Opportunity, Mobility, and Sustainability. Expo 2020 Dubai will provide a unique global stage for showcasing and sharing novel solutions and demonstrating projects that – irrespective of their size and geography – can improve and potentially transform the lives of people around the world. Besides, Expo 2020, Dubai is aligned with the UN Sustainable Development Goals and works towards enabling new opportunities for local communities and individuals to help them achieve their future aspirations. It will focus on easing access to information, markets, and innovation by working on technologies and solutions for facilitating the movement of people, goods, and ideas.

Expo Live is an innovation and partnership program launched by Expo 2020 Dubai to source, fund, and promote creative solutions that improve lives while preserving our planet. In 2016, Expo Live launched its global Innovation Impact Grant Program (IIGP), focusing on small, startup, and social enterprise organizations that were awarded grants up to USD 100,000 to fuel and implement their innovative projects.

With the delay of Expo 2020 Dubai by one year, Expo Live is poised to work closely with its startup community over the next year to provide additional grant funding and technical assistance as these startups navigate the upcoming challenges in implementing their solutions in the new post-COVID-19 landscape.

<sup>52</sup> <https://www.responseinnovationlab.com/mission>

<sup>53</sup> <https://www.responseinnovationlab.com/what-we-do>

To date, Expo Live has conducted five rounds of calls for proposals, receiving over 11,000 applications from 184 countries (reaching 96% of the world). Moreover, 142 grantees (Expo Live “Global Innovators”) operating in 76 countries have been confirmed with projects having a direct impact in their communities in Water, Energy, Sanitation and Hygiene; Financial Services for the Poor; Maternal, Neonatal and Child Health; and Education. In response to the COVID-19 outbreak, Expo Live launched an Emergency Relief Fund in March 2020 to support “Global Innovators” who face immediate financial hardship. For successful applicants, the short-term internal emergency relief fund injects USD 50,000-100,000 for organizations to address urgent challenges. The relief fund also seeks to support new initiatives that grantees propose that are an immediate response to the impact of COVID-19 in their communities.<sup>54</sup>

Since 2018, Expo 2020, Dubai, and the foundation have been working together to engage and mobilize the international community in seeking innovative and collective solutions to global challenges in the humanitarian context. The partnership is specifically between Expo Live and the Emergency Response Unit of the foundation. The Emergency Response Unit is taking part in Expo 2020 Dubai with a goal to enhance the emergency response capacities of the humanitarian system in the Middle East and globally, by increasing the access to innovations and best practice learnings as well as increasing the visibility of humanitarian causes.

The two organizations piloted a collaborative, global initiative called the Humanitarian Innovation Grant (HIG), in which both organizations contributed to the funding and accelerating the growth of innovative solutions from unlikely places, small and medium enterprises (SMEs), and startups that positively impact the lives of refugees and other vulnerable populations. This sub-program focuses on economically disadvantaged individuals, individuals impacted by natural or other disasters, vulnerable communities impacted by diseases, and other humanitarian crises.

In July 2020, Expo Live and the EMR Unit confirmed a second round of the Humanitarian Innovation Grant. The collaborative fund between Expo Live and the EMR Unit will serve as a longer-term, systemic response to alleviate challenges posed by the pandemic. Expo Live and the EMR Unit will tap into the currently active HIG grantees, as well as Expo Live’s extended network of grantees who are currently piloting their solutions for vulnerable populations and whose challenges are further exacerbated by COVID-19. Both organizations have committed support to social enterprises, SMEs, and local organizations that can benefit from an injection of funds to test, implement, and/or scale their solutions for vulnerable populations. More information on the HIGs, Expo 2020 Dubai and the Expo Live program is available at: <https://www.expo2020dubai.com/en/programmes/expo-live>

**Creating Hope in Conflict: A Humanitarian Grand Challenge** is another example of a well-established innovation initiative. It is a partnership of the USAID, the United Kingdom Department of International Development (DFID), and the Ministry of Foreign Affairs of the Netherlands with support from Grand Challenges Canada.<sup>55</sup> The challenge aims to identify and support groundbreaking solutions that engage the private sector and draw solutions from the experiences of affected communities. It aims to improve and save the lives of vulnerable people affected by conflict. The goal is to identify solutions that allow communities to respond more efficiently to complex emergencies and take steps to improve quality of life.

The challenge targets the sourcing and scaling of solutions that are proven to work across key focus areas of safe water and sanitation, energy, life-saving information, and

<sup>54</sup> Based on information received via email from Expo 2020 Dubai in July 2020

<sup>55</sup> <https://www.grandchallenges.ca/programs/creating-hope-conflict/>

health products and services. The challenge acknowledges that “given the current scale of humanitarian needs, this challenge is too great for one sector to solve...the private sector can contribute valuable technical expertise, risk management, and access to networks and data, and may often have detailed knowledge about local conditions.” This approach encourages innovators to engage the core competencies of the private sector partners in their designs. Such integration in their development maximizes the impact of their innovations, relevance in the local context, and identifies opportunities for collaboration with the private sector.<sup>56</sup>

An additional key characteristic of the Creating Hope in Conflict Challenge is that the Request for Proposals (RFPs) for innovative solutions will provide funding across two separate tracks, specifically Seed Funding and Transition to Scale innovations. The objective of seed funding is to test new ideas and approaches to humanitarian assistance to determine whether or not they are effective. Projects that receive seed funding are expected to provide evidence (e.g., proof of concept) that the innovation has the potential to be implemented at scale in other contexts. Innovators who have demonstrated proof of concept, as well as developed a plan for scale and sustainability, and attracted commitments from key stakeholders and partners by the end of the seed award may be invited to apply for Transition to Scale program funding.

Transition to Scale support may take the form of grants, repayable grants, interest-free loans, interest-bearing loans, convertible debt, and pay-on-results contracts, etc. These innovations must demonstrate strategic partnerships required for the transition to scale and sustainability of innovative solutions and matched resources (e.g., human and other non-financial resources) from strategic partners for activities that further the growth, development, commercialization or adoption of the innovation (e.g., manufacturing, distribution, marketing, networks) commitment by partners.

The **SERVIR-Mekong's** Grants Program (2016-2018) is an example of a mechanism aimed to generate innovative ideas to translate science into sustainable policy and practice that addresses development challenges posed by climate stresses in the region.<sup>57</sup> Under the grants program, grantees were selected through a rigorous application process under two solicitations. The first was focused on research activities within the four SERVIR service areas, which include land cover/land use and ecosystems, water resources and disasters, food security, and weather and climate. The second concentrated on exploring the intersection of gender and geospatial technology in relation to improving environmental management and resilience to climate change in the Mekong Region.

The application process for innovators is displayed in Figure 7. Applications were accepted from organizations in Cambodia, Thailand, and Vietnam.<sup>58</sup> The selected grant teams from NGOs, universities, and scientific institutes in Cambodia, Vietnam, and Thailand, received training on USAID grants management, engaging with stakeholders, mainstreaming gender into research, capacity building, monitoring and evaluation, and communications.

SERVIR-Mekong is part of a network of regional geospatial support hubs and is an initiative of the United States National Aeronautics and Space Administration (NASA) and USAID. The geospatial data for development program was designed to respond to the needs of the Lower Mekong countries. It aims to build the capacity of governments and other key stakeholders in the Lower Mekong countries to employ publicly available

56 Creating Hope in Conflict: A Humanitarian Grand Challenge (2018). 'Request for Proposals.' <https://humanitariangrandchallenge.org/wp-content/uploads/2019/02/HGC-R1-RFP-20180219-EN.pdf>

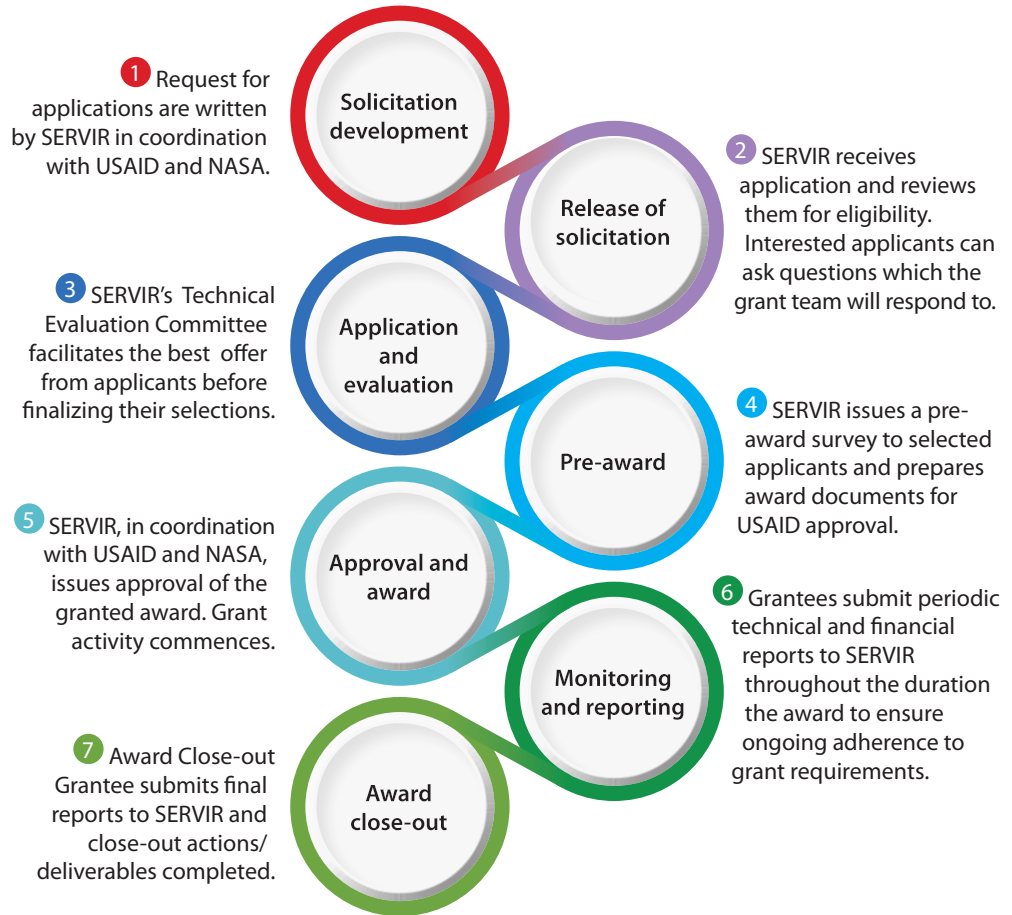
57 <https://servir.adpc.net/services/grants-program>

58 <https://www.servirglobal.net/Global/Articles/Article/2562/servir-mekong-grantees-kick-off-innovative-research>

Figure 7

**SERVIR-Mekong's  
Grants Program Life  
Cycle**

**Request for application process with 7 easy steps**



satellite imagery and geospatial technologies for decision making related to climate change, environmental management, and disaster risk management. SERVIR-Mekong is implemented by the ADPC and its technical partners Spatial Informatics Group (SIG), Stockholm Environment Institute (SEI), and Deltares.<sup>59</sup>

**The World Bank Group and CES<sup>60</sup> Global Tech Challenge:** TechEmerge was created by the International Finance Cooperation (IFC), a sister organization of the World Bank, and a member of the World Bank Group. CES was incentivized through a joint global challenge,<sup>61</sup> and is owned and was produced by the Consumer Technology Association (CTA). Through the challenge, the World Bank Group aimed to mobilize the tech community to create solutions focused on key development challenges. TechEmerge Resilience India (described in the next section of this report) is part of similar challenges that have been launched in Latin America and East Africa, targeting specific themes and sectors such as health, sustainable cooling, and resilience (risk reduction and management).

59 <https://servir.adpc.net/about/about-servir-mekong>

60 Consumer Electronic Show

61 <https://www.ces.tech/Global-Tech-Challenge.aspx>

# Existing Innovation Initiatives in Selected Countries in Asia



In exploring the existing landscape of social innovation in the region, this section provides a more detailed analysis of innovation platforms and initiatives, as well as the wider environment and context in selected countries of South-East Asia (i.e., Cambodia, Myanmar, and the Philippines) and South Asia (i.e., Bangladesh, India, Nepal, Pakistan, and Sri Lanka). Many of the global and regional innovation platforms referenced in the previous sections are also operating in the countries featured in this section. Thus, this section highlights additional innovation programs and platforms in the region, which are implemented by local organizations from various sectors. They also consider the specific country contexts in view of social innovation for humanitarian and DRM themes. This section specifically covers the following elements for the respective countries: definitions of innovation, current innovation initiatives, key stakeholders and main thematic focus of relevant innovation activities, challenges encountered for fostering and implementing innovations, as well as strategies for sustainability for innovations.





# Bangladesh



## Definitions of innovation

The Government of Bangladesh does not have a formal definition of innovation in the context of DRM. However, the Government of Bangladesh has acknowledged the role innovation can play in the forecasting of disasters in its 2016-2020 National Plan for Disaster Management (NPDM). This includes promoting investments in innovation and technology development in the long-term, and multi-hazard and solution-driven research in disaster management under Priority 1: Understanding disaster risk.<sup>62</sup>

Development organizations working in the country, such as BRAC, have included innovation within the organization's approach to DRM. This is reflected in the statement from BRAC: "As humanitarian crises are becoming ever more complex, and innovative approaches, tools, systems, and processes are required to address the new challenges and meet increasing needs."<sup>63</sup>

## Key stakeholders and main thematic focus of innovation activities in the country

Innovation has been recognized by the government as a means of enhancing the forecasting of disasters. The Bangladesh Meteorological Department (BMD) and the Flood Forecasting and Warning Centre (FFWC) are responsible for introducing an innovation package for the prediction and forecast of hydrometeorological disasters. Specifically, the government seeks to advance satellite-based forecasting and warning systems developed by SERVIR, as the technology successfully forecasted the 2014 flooding.<sup>64</sup>

The government also focuses on disaster management through microfinance to promote rehabilitation. Microfinance institutions (MFIs) follow the Grameen Bank model to provide financial products that include disaster funds and insurance for micro-enterprises against any losses as a result of disasters.<sup>65</sup> Rehabilitation through micro-credit such as The Grameen Bank model of credit delivery has motivated MFIs to create innovative financial products that include disaster funds and insurance for microenterprises against losses caused by natural disasters. Their mechanisms support disaster-affected clients and safeguarding their portfolios.<sup>66</sup>

Development organizations, INGOs, and UN agencies have also promoted innovation through individual projects and programs, including the development of early warning systems and the introduction of innovative technology in their programs. The UNDP in

62 Government of Bangladesh (2016). 'National Plan for Disaster Management 2016-2020.' [https://modmr.portal.gov.bd/sites/default/files/files/modmr.portal.gov.bd/policies/0a654dce\\_9456\\_46ad\\_b5c4\\_15ddfd8c4c0d/NPDM\(2016-2020\)%20-Final.pdf](https://modmr.portal.gov.bd/sites/default/files/files/modmr.portal.gov.bd/policies/0a654dce_9456_46ad_b5c4_15ddfd8c4c0d/NPDM(2016-2020)%20-Final.pdf)

63 Based on information received via email from BRAC in June and July 2020

64 Diya, S. B. and Bussel, J. (2017). 'Disaster Preparedness in Bangladesh - Research Brief No. 7.' Robert Strauss Center for International Security and Law. [https://www.strausscenter.org/wp-content/uploads/CEPSA\\_Brief-07\\_DisasterPreparedness\\_Bangladesh.pdf](https://www.strausscenter.org/wp-content/uploads/CEPSA_Brief-07_DisasterPreparedness_Bangladesh.pdf)

65 Matin, N. and Taher, M. (2001). 'The changing emphasis of disasters in Bangladesh NGOs.' *Disasters* 25(3): 227-239. <https://onlinelibrary.wiley.com/doi/epdf/10.1111/1467-7717.00174>

66 Matin, N. and Taher, M. (2001). 'The changing emphasis of disasters in Bangladesh NGOs.' *Disasters* 25(3): 227-239.

Bangladesh has utilized innovation technology, including for the construction of disaster-resilient homes and the development of drought and salient-resistant crops.<sup>67</sup>

Though the government and development partners have adopted innovation for DRM in Bangladesh, there is little evidence of coherent or consistent approaches to innovation across sectors. Nonetheless, there is a sound basis for multi-sector collaboration on disaster management in the country, which can extend to cooperation on innovation for DRM. The government developed a cross-sectoral council in 2004; members include the Ministry of Disaster Management and the Department of Disaster Management, as well as 900 representatives from ministries, international aid organizations, NGOs, the private sector, and sub-national governments.<sup>68</sup> Furthermore, ADPC has also worked towards strengthening multi-stakeholder partnerships in the country with efforts towards establishing the “Bangladesh Preparedness Partnership,” comprising government, the private sector, and LNGOs/civil society organizations (CSOs), in line with the APP model established in other countries.

## Current relevant innovation initiatives

The Government of Bangladesh has targeted innovation in the form of science-based techniques to strengthen the ability of the country to forecast major disaster events such as landslides, droughts, or floods, as referenced in the NDPM.<sup>69</sup> The framework focuses on disaster prediction and forecasting of hydro-meteorological disasters, as these are the most frequent disasters in Bangladesh.

The government also collaborates with NGOs to implement microfinance programs that support rehabilitation. Many NGOs programs integrate innovations focused on rehabilitation channels for women as they are considered to be the most vulnerable group after a disaster event. NGOs who have implemented client-protection programs allow individuals to withdraw savings and reschedule necessary contributions until the normal state returns. They also provide training and loans that promote business diversification for disaster-proof income-generating activities. Portfolio-protection mechanisms include loan rescheduling with or without interest, combining grants and working capital loans, and insurance mechanisms.<sup>70</sup> **Save the Children International (SCI)** is an example of an NGO working in the country that integrates innovation into their programs for promoting evidence-based, child-centered models/solutions to create a culture of safety and disaster resilience. Some of the specific challenges they have faced are shared later in this section of the report.<sup>71</sup>

**BRAC** is perhaps the clearest example of a national NGO working in the humanitarian sector that has a coherent, systematic approach to innovation. Innovation is one of BRAC’s core values, promoting experimentation and learning from failure. The organizational strategy for 2020-2025 includes “strengthening resilience to disasters

67 [https://www.undp.org/content/undp/en/home/librarypage/poverty-reduction/supporting\\_transformationalchange/Bangladesh-drr-casestudy-transformational-change.html](https://www.undp.org/content/undp/en/home/librarypage/poverty-reduction/supporting_transformationalchange/Bangladesh-drr-casestudy-transformational-change.html)

68 Diya, S. B. and Bussel, J. (2017). ‘Disaster Preparedness in Bangladesh.’ [https://www.strausscenter.org/wp-content/uploads/CEPSA\\_Brief-07\\_DisasterPreparedness\\_Bangladesh.pdf](https://www.strausscenter.org/wp-content/uploads/CEPSA_Brief-07_DisasterPreparedness_Bangladesh.pdf)

69 World Bank (2012). ‘Disaster Risk Management in South Asia: A Regional Overview.’ <http://documents1.worldbank.org/curated/en/648281468170977802/pdf/763020WP0P11400Box0379791B00PUBLIC0.pdf>

70 Matin, N. and Taher, M. (2001). ‘The changing emphasis of disasters in Bangladesh NGOs.’ *Disasters* 25(3): 227–239.

71 Based on information received via email from SIC in June and July 2020.

and climate change and emergency response capacity building.” BRAC’s Humanitarian Programme (BHP) promotes innovation in DRM through the following approaches: bridging humanitarian and development works together; conducting research, and developing, demonstrating/piloting innovative models and user-friendly tools, systems and processes that improve disaster resilience and humanitarian response during emergencies; applying innovative methods for training and knowledge management; and promoting community-based innovative models/solutions for combating hazards at local levels.<sup>72</sup>

**The Digital Early Warning Systems to Save the Lives and Livelihoods of Communities in Bangladesh (DEWS)** is an example of innovation implemented by NGOs for adapting and introducing digital early warning systems for use at the local level. CARE Bangladesh established the system with financial assistance from the Human Innovation Fund and technical support from Banglalink, the Bangladesh Meteorological Department, and the Campaign for Sustainable Rural Livelihoods, Oxfam.<sup>73</sup> The project, which ran from 2012-2014, was created to address the gaps in early warning systems that were not sufficient in providing necessary information to the fisherman at sea. The project sought to strengthen communications systems to provide timely forecasts and early warning messages to fishermen beyond mobile coverage, and strengthen multi-disciplinary, multi-agency coordination and collaboration. This aimed to inform and integrate warnings into DRR decisions and measures and strengthen the response capacity of the Cyclone Preparedness Program in targeted communities. The project’s target beneficiaries were 300 boats that employed 3,000 fishermen in the coastal region of Cox’s Bazar Sadar Upazila. The project demonstrated that innovation in early warning systems produced a significant positive impact. Specifically, the DEWS familiarized its target group with new digital technology, increased awareness on early warning mechanisms and fishermen vulnerability, improved disaster preparedness with a focus on natural hazards, and built capacity of boat tracking systems. Overall, the program led to a broad risk reduction within the fishermen community.

**“Udhvabani Lab Bangladesh” - Disaster and Emergencies Preparedness Programme Innovation Lab Bangladesh (DEPP)** is an innovation Lab with a network of national and international humanitarian organizations that identifies and develops areas of innovation that affect communities during crises.<sup>74</sup> The DEPP focuses on promoting innovation by supporting locally-driven change within the humanitarian system. The program aims to promote cross-sector partnerships with a range of stakeholders such as the private sector, research, civil society, and/or government organizations, as well as create new opportunities for learning and collaboration and potential avenues to scale emerging areas of innovation. Labs have been established in countries prone to disaster, including Bangladesh, Jordan, Kenya, and the Philippines. Launched in October 2017, the Bangladesh Lab strives to examine and improve the direct impact of the built environment on emergencies. The lab has six key functions in regard to innovations: 1) Scouting, 2) Identification, 3) Financial Support, 4) Technical and social validation, 5) Core research, and 6) Dissemination.<sup>75</sup> This process was followed to support the development of 12 disaster preparedness innovations, which were selected from an initial 83 proposals between 2017 and 2018.<sup>76</sup>

72 Based on information received via email from BRAC in June and July 2020.

73 Care Bangladesh (2015). ‘Digital Early Warning Systems to Save the Lives and Livelihoods of Communities of Bangladesh (DEWS)’. [https://www.elrha.org/wp-content/uploads/2015/01/FINAL\\_Care-DEWS-Project-Final-Evaluation-Report.pdf](https://www.elrha.org/wp-content/uploads/2015/01/FINAL_Care-DEWS-Project-Final-Evaluation-Report.pdf)

74 <https://startnetwork.org/depp-innovation-labs>

75 <https://www.depplabbd.com/about-us/who-we-are/>

76 <https://www.depplabbd.com/media-center/press-release/>

## Challenges for innovation related initiatives

SCI identified numerous challenges for innovation in DRR/DRM from an organizational perspective. The most definitive challenges include the fact that DRR is yet to be institutionalized, which prevents the effective and efficient implementation of measures. Instead, actions are implemented through an ad hoc approach. Changing the mindset of the government, practitioners, and communities is challenging yet required for achieving cooperation and collaboration. Additionally, there is a lack of adequate tools and approaches for mainstreaming DRR/DRM into other sectoral areas, and it becomes essential to ensure necessary government resources are allocated for DRR/DRM.<sup>77</sup>

BRAC acknowledges the challenges of adopting innovation in DRM, specifically the difficulty in applying new solutions and technology during an emergency. The uncertain nature of disasters poses restrictions in testing innovative pilots or applying these on a large scale. To help address this challenge, BRAC executes pilot projects and applies lessons learned to scaling up projects through its resources and human resources. They express that proper documentation is the key to applying, monitoring, and capturing knowledge from innovations. Documentation and proof of concept have helped to promote greater success in DRM when similar disasters occur. However, innovative preparedness measures that are taken during normal times are limited, and only demonstrate their true efficacy when the methods and approaches are applied during a disaster event.

More broadly, there is a gap in understanding challenges regarding risk reduction among policymakers of all sectors, which means that innovations are often not maintained even in cases in which they have had positive results. For instance, the Ministry of Food and Disaster Management (MoFDM) was funding innovatively to address the most vulnerable and poor populations via long term programs. However, the program has developed into a post-disaster rehabilitation program, with the lack of understanding of concepts, such as risk reduction, resulting in the lack of priority from government officials. Additionally, the idea of risk reduction is seen as a difficult proposition for decision-makers in Bangladesh, which may limit the allocation of funding for innovation targeting DRM.

## Strategies for sustainability

BRAC facilitates community-led approaches, and blends modern technologies with indigenous knowledge to develop innovative and effective solutions, capture learnings, and build partnerships with local government organizations and other stakeholders. BRAC also believes that sharing their knowledge management practices and products with a wide range of stakeholders is essential in DRM. They acknowledge that monitoring the impact of innovation is also difficult, given that the scale of disasters vary. Furthermore, measurement and documentation as to whether or not an innovation is effective, and up to what degree, takes a significant amount of time. BRAC believes that learning a new and innovative way to improve preparedness and response arises with each emergency situation, and often these solutions come from the community itself.

<sup>77</sup> Based on information received via email from SIC in June and July 2020

DEWS identified the following steps to develop innovation in future projects: 1) conduct in-depth stakeholder analysis along with ground action research including a feasibility study that will investigate the technological aspects and implementations, 2) implement process documentation and documents lessons learned, 3) conduct advocacy and partner with the government to endorse and adopt innovative technology in mainstream development, and 4) analyze partner experiences of innovation implementation both within and outside the country.<sup>78</sup>

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78 Care Bangladesh (2015). 'Digital Early Warning Systems to Save the Lives and Livelihoods of Communities of Bangladesh (DEWS)'. [https://www.elrha.org/wp-content/uploads/2015/01/FINAL\\_Care-DEWS-Project-Final-Evaluation-Report.pdf](https://www.elrha.org/wp-content/uploads/2015/01/FINAL_Care-DEWS-Project-Final-Evaluation-Report.pdf)



# Cambodia



## Definitions of innovation

A lack of concerted innovation and social innovation initiatives and programs is reflected by the fact that there is no unified definition of “innovation” in the Cambodian context. However, various organizations have provided suggestions on how they recognize the term for this study. For example, the Innovation Hub Phnom Penh is a social enterprise that does not offer a specific definition of innovation but highlights that addressing challenges requires a focus on providing “value added” solutions and service provision. The enterprise also recognizes that innovation can take numerous forms as key facets of the concept.<sup>79</sup>

Similarly, DanChurchAid (DCA), a humanitarian NGO, describes innovation as any initiative that can be presented as a best practice or technology for positive change. These initiatives can draw upon or adapt experiences from others and are feasible in terms of cost in the local setting. They note that innovation may entail better approaches for preparedness, such as early warning systems, or relevant and timely response actions like cash transfers and beneficiary management systems (BMS). It may also include initiatives focused on building back better or recovery initiatives that can be integrated into longer-term development in the context of DRM.<sup>80</sup>

## Key stakeholders and main thematic focus of innovation activities

Social innovation for humanitarian and development issues is relatively limited. It is primarily led by social enterprises in Cambodia who have formed partnerships with relevant government agencies to identify common areas of interest to promote innovation. Social enterprises work on a broad spectrum of innovations, of which disaster and the humanitarian sector is one facet.

INGOs and LNGOs have also integrated innovation in their work through individual projects and programs. This process includes the development of early warning systems and the introduction of innovative technology for cash transfer programs. Government agencies working on disaster management and weather forecasting have been able to access and utilize these tools for their work.

The solutions promoted by international development partners, such as USAID with the private sector, tend to be focused on technology-based solutions to address social and economic challenges.

<sup>79</sup> Interview with Innovation Hub Phnom Penh representative conducted by ADPC in June 2020

<sup>80</sup> Based on information received via email from DanChurchAid in June 2020



## Current relevant innovation initiatives

**Impact Hub Phnom Penh** serves as a focal point for innovation in activities related to the implementation of the Sustainable Development Goals (SDGs). It is part of the Impact Hub global network, which is focused on building entrepreneurial communities for impact at scale. The hub operates as a social enterprise and is committed to reinvesting any net profits made into achieving its social mission. Impact Hub Phnom Penh has coordinated the Cambodia Chapter of the Youth co:lab (co-created by UNDP and the Citi Foundation), which is a global network that encourages young people to take the lead on new solutions to meet the SDGs.

**SmartSpark** is a youth startup program organized by Smart Axiata and Impact Hub Phnom Penh to introduce key concepts of social entrepreneurship and to promote the progress of innovative ideas into solution-oriented businesses. The cohorts focus on various SDGs. The most recent one addressed those related to social welfare, which included SDG 1: No Poverty, SDG 2: Zero Hunger, SDG 3: Good Health and Well-being, and SDG 6: Clean Water and Sanitation.<sup>81</sup> The selected participants have access to support from the Impact Hub through a dedicated mentor, structured workshops to develop and test ideas, and opportunities to pitch their innovative ideas to a panel of judges and audience during the 10-week incubation period. One successful team was selected to receive USD 3,000 to launch their business idea, as well as continued support from Impact Hub Phnom Penh.

The Impact Hub Roundtable has been involved in outreach to government agencies, including the Ministry of Commerce, the Ministry of Economy and Finance, the Ministry of Posts and Telecommunications, and the Ministry of Education. An “Entrepreneurship Platform for Engagement and Exchange” meeting organized in September 2019 brought together entrepreneurs and government representatives to clarify and share the main challenges, drivers, and opportunities that the startups believe the government can influence or solve. It also sought to strengthen the overall ecosystem for entrepreneurs and innovation in Cambodia.<sup>82</sup>

**DanChurchAid (DCA)** is a humanitarian NGO based in Copenhagen, Denmark. DCA is part of the Action by Churches Together (ACT) Alliance, which consists of more than 100 churches and humanitarian organizations that work in development, provide humanitarian assistance, and conduct advocacy in more than 120 countries.<sup>83</sup> DCA works with partners and the private sector to introduce innovative solutions that improve food security and disaster preparedness and response, with a strong focus on climate change adaptation. DCA prioritizes actions that reach the most vulnerable and marginalized communities, particularly in rural areas.

DCA currently focuses on three key pillars - saving lives, fighting inequality, and building resilient communities.<sup>84</sup> DCA concentrates on both drought and flood response through cooperation with local governments to enhance communities’ adaptation efforts for climate change and to improve their preparedness for disasters.<sup>85</sup> DCA has also promoted

81 <https://phnompenh.impacthub.net/smartsark>

82 Impact Hub Phnom Penh (2017). ‘Entrepreneurship Platform for Engagement & Exchange Report.’ [https://phnompenh.impacthub.net/wp-content/uploads/2020/04/Impact-Hub-Phnom-Penh-Entrepreneurship-Platform\\_Report.pdf](https://phnompenh.impacthub.net/wp-content/uploads/2020/04/Impact-Hub-Phnom-Penh-Entrepreneurship-Platform_Report.pdf)

83 <https://www.danchurchaid.org/about-dca>

84 [https://www.danchurchaid.org/where-we-work/cambodia#tab73927132a052331d7c64e9ce0e42a068\\_3](https://www.danchurchaid.org/where-we-work/cambodia#tab73927132a052331d7c64e9ce0e42a068_3)

85 <https://www.danchurchaid.org/where-we-work/cambodia>

sustainable livelihoods for smallholder farmers and low-income families by helping them to improve, diversify, and increase their agricultural production and income generation.<sup>86</sup>

**The National Committee for Disaster Management (NCDM)** is the primary mandated agency working on disaster and emergency management in Cambodia. The Ministry of Water Resources and Meteorology (MOWRAM) and the NCDM have utilized technology-based innovative solutions for the collection and dissemination of early warning information on hazards such as droughts, floods, storms, etc. The early warning system development was supported by **People in Need (PIN)**, a Czech NGO.<sup>87</sup> The NCDM has utilized the system to channel early warning information to the sub-national levels via all 25 Provincial Committees for Disaster Management (PCDMs) in the country. The user-centered alert tool developed by PIN delivers advance warning to people living in areas prone to flooding.

After the success of PCDMs utilizing the early warning system at the sub-national levels, the NCDM recognized Early Warning System (EWS) 1294 as the national early warning system. PIN initially focused the use of the 1294 early warning system specifically for flood warnings, but intended to expand its use to disseminating warnings and information for droughts as well. The Federation of Associations for small and medium-sized enterprises of Cambodia (FASMEC) is a business association comprising a collective of more than 300 SMEs in Cambodia, and is planning to adopt the EWS 1294 system with technical support from PIN, and disseminate it for use by its members across the country.

## Challenges for innovation related initiatives

A key challenge in terms of innovation is finding the appropriate spaces or settings in which innovations can flourish, particularly when it comes to formally registering an enterprise. In Cambodia, organizations can be registered as either a company or as an NGO. However, there is no legal definition for a social enterprise, which can prove challenging for start-ups. The law stipulates that “charitable activities and charity-linked activities are tax-exempt.” In theory, an NGO can have commercial activities without paying taxes provided that these activities are directly linked with its mission.

These matters pose a sustainability issue for social enterprises. Moreover, the process for registration of businesses (particularly for small enterprises) is not as straightforward or streamlined as other countries in the region. A lack of framework or legislation for intellectual property (IP) rights leave innovators vulnerable to duplication of their ideas.

The relatively small innovation ecosystem system has been identified as both a challenge and a potential advantage. On the one hand, the limited ecosystem can be advantageous for those promoting innovative solutions to maximize the financial and technical support and resources. However, challenges for individual innovators or entrepreneurs include difficulties in generating early-stage funding as grant opportunities can be limited, and the pool of investors to which ideas can be pitched or presented is relatively small. For example, the government-funded initiative “Khmer Enterprise”<sup>88</sup> supports innovation, but the mechanism to access associated resources is unclear.

86 <https://www.danchurchaid.org/where-we-work/cambodia>

87 <https://www.clovekvtisni.cz/en/who-we-are/about-us>

88 <https://www.kh.undp.org/content/cambodia/en/home/presscenter/pressreleases/2020/a-new-partnership-to-enhance-cambodias-youth-entrepreneurship-an.html>

DCA and PIN pointed to the challenges of technology constraints in developing innovations that could support communities. For instance, the cash transfer and early warning systems were limited to those local people who had access to smartphones, who may not be the direct beneficiaries. Communication and coordination with stakeholders from other sectors to promote, implement, and disseminate innovations was highlighted as an opportunity but also posed challenges. PIN noted that at the national level, it was difficult to liaise with government counterparts.

The sustainability and long-term plans for maintaining such innovations is also a barrier. Initiatives such as PIN's early warning system require more resources to remain functional after they are handed over to the government. FASMEC will require technical support from NCDM and PIN to adopt and integrate the system into their operations. Maintaining adequate financial and technical resources, even in the case of innovative solutions that have demonstrated their relevance and value, is often unclear.

## Strategies for sustainability

Many of the national innovation initiatives referenced are led by the NGO sector. These initiatives are designed and implemented to address particular issues that have been identified at the community level, after which dedicated initiatives or projects are implemented. PIN found that it is imperative to have strong connections with relevant government agencies to implement and sustain programs, such as the EWS 1294, during the pilot stage. This experience corresponds with the DCA's Cash Transfer activities at the pilot stage. The organization was able to hand over the project to the respective PCDMs and train the local government official following demonstrated success.

Impact Hub Phnom Penh noted that a strong proof of concept is an important aspect of sustainability that is often lacking. Impact Hub Phnom Penh is trying to address this gap by undertaking an "ecosystem mapping" of the key stakeholders across different sectors working in the innovation and social innovation space.<sup>89</sup> The overall objective is to guide and nurture innovators by fostering their ideas in a more structured and conducive environment.

The Ministry of Posts and Telecommunications is recognized as a primary government focal point for innovation, entrepreneurship, and startups in terms of technology-based challenges and projects. There is a potential to expand this to include social innovation initiatives to gain necessary endorsement and support from the government in this area.<sup>90</sup>

<sup>89</sup> <https://phnompenh.impacthub.net/startupecosystem/>

<sup>90</sup> Impact Hub Phnom Penh (2017). 'Entrepreneurship Platform for Engagement & Exchange Report.' [https://phnompenh.impacthub.net/wp-content/uploads/2020/04/Impact-Hub-Phnom-Penh-Entrepreneurship-Platform\\_Report.pdf](https://phnompenh.impacthub.net/wp-content/uploads/2020/04/Impact-Hub-Phnom-Penh-Entrepreneurship-Platform_Report.pdf)





India



## Definitions of innovation

A formal definition of innovation is missing in the context of India. Nonetheless, the government has strongly promoted the concept of innovation through Niti Ayog (National Institution for Transforming India), which reflects the focus on innovation as a priority area and tool for economic and social development in the country. Niti Ayog launched the India Innovation Index in 2019 to foster nationwide innovation and monitor performance.<sup>91</sup>

## Key stakeholders and main thematic focus of innovation activities in the country

Stakeholders across various sectors are involved in promoting innovations in India, which include collaborations with industry, national agencies, NGOs, and international organizations. Government institutions such as Niti Aayog, National Disaster Management Authority, Atal Innovation Mission, and Department of Science and Technology, among many others have established challenges, joint programs, public-private partnerships, etc. to promote innovation in sectoral processes. The private sector, notably business associations such as the Federation of Indian Chambers of Commerce and Industry (FICCI), have been strong proponents of innovation. They have also partnered with the government on various innovation initiatives and challenges.

Disaster management and relief have traditionally focused on post relief, rehabilitation, and reconstruction efforts. India has now shifted towards a more holistic approach to risk mitigation through a solutions-based focus. Emerging solutions have primarily focused on building community resilience in DRR through the support of local authorities and NGOs.<sup>92</sup>

## Current relevant innovation initiatives

Recently, there has been a notable increase in innovation-backed initiatives by the government and the private sector in the country. Innovation initiatives have gained momentum through grant challenges, impacts investing, and innovation missions. The government has also created dedicated institutions that are working with and supporting individuals, social enterprises, and startups.

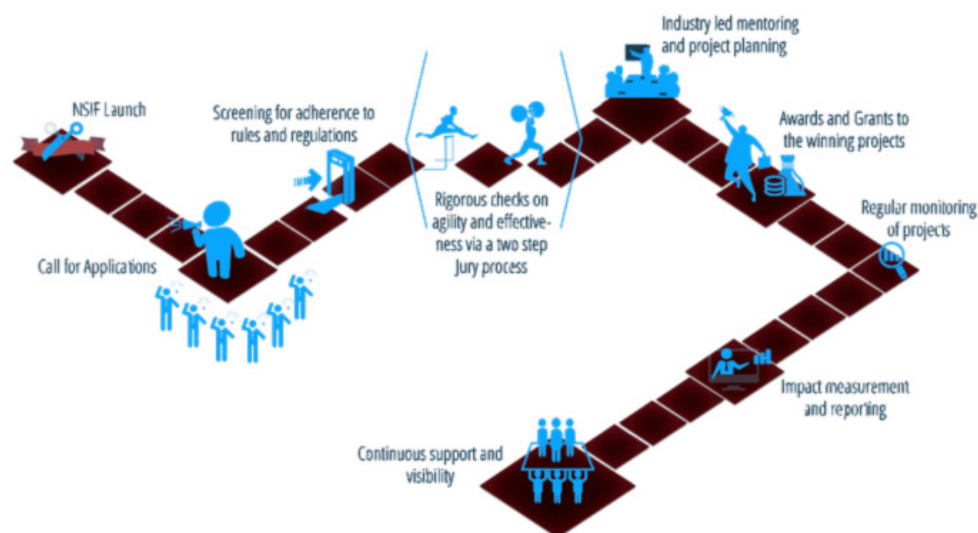
Innovation forums and challenges have become a means of promoting and identifying innovative solutions. These platforms encompass innovation for a large category of issues that include but are not limited to DRM. The Innovation Challenge for Disaster Risk Reduction and the TechEmerge Resilience India Challenge are two of the many challenges that exclusively focus on DRM.

91 Niti Aayog. 'India Innovation Index Report 2019'. [https://niti.gov.in/sites/default/files/2019-10/India\\_Innovation\\_Index\\_Report\\_2019.pdf](https://niti.gov.in/sites/default/files/2019-10/India_Innovation_Index_Report_2019.pdf)

92 Based on information received via email from the Federation of Indian Chambers of Commerce and Industry on June 10, 2020.

Figure 8

### NISF application, selection, and mentoring processes<sup>93</sup>



**The Innovation Challenge for Disaster Risk Reduction<sup>94</sup> (DRR)** is an innovation challenge that was organized during the second meeting of the National Platform for Disaster Risk Reduction (NPDRR) in May 2017, convened by the Government of India. A majority of the 330 applications were NGOs, startups, and companies utilizing innovative technology for DRR. The two-day event hosted by the Ministry of Home Affairs brought together over 1,000 delegates from across the country. For the first time, the platform organized the Innovation Challenge for DRR to identify innovative startups in disaster management and highlight their innovations at the national platform. The innovations demonstrated the use of technology, commercial technology, and/or potential technology with the possibility of scale-up.

**The TechEmerge Resilience India Challenge** was launched by the World Bank Group in partnership with the Government of India's National Disaster Management Authority and Consumer Electronic Show (CES).<sup>95</sup> The challenge aims to address the need to adapt and innovate to support national Disaster Management Authorities (DMAs). These proposals must consider measures to prevent the spread of COVID-19, while preparing for and responding to disaster events.<sup>96</sup> Innovators selected through the competitive process will be invited to present solutions to participating Disaster Management Authorities in India and discuss opportunities to pilot and deploy their solutions and even commercialize their technology. Selected innovators will receive grant funding toward the implementation of solutions, and support from the World Bank Group during the market entry and deployment process to mitigate financial and operational risks and promote membership in related tech community groups.<sup>97</sup>

**NASSCOM Social Innovation Forum (NSIF) 2019 Challenge:** NASSCOM Social Innovation Forum<sup>98</sup> is a "Tech for Good" platform that advances Information Communication Technology (ICT) innovations. The forum recognizes and supports ICT-led innovations that have met a social development need or helped organizations achieve their social development objectives. The "Forum's Challenge" is an annual competition that awards

<sup>93</sup> <https://nasscomfoundation.org/nsif/>

<sup>94</sup> <https://innovate.mygov.in/national-platform-for-disaster-risk-reduction-npdr/>

<sup>95</sup> <https://www.ces.tech/About-CES.aspx>

<sup>96</sup> <https://www.techemerge.org/resilience>

<sup>97</sup> Grant funding, supported by UK's DFID, to pilot and deploy solutions in India. The grant will be implemented by ADPC, under the World Bank's CARE project.

<sup>98</sup> Hosted by NASSCOM Foundation, the non-profit arm of the IT-BPM industry body NASSCOM in achieving its goals of social transformation and impact through technology.

ICT innovation in key developmental areas of which disaster management is a criterion. The call for applications, selection and mentoring processes by NSIF are illustrated in Figure 8.

**The Atal Innovation Mission (AIM)**<sup>99</sup> was established by Niti Aayog. It promotes innovation and entrepreneurship and creates an environment that transforms ideas into innovative and impactful solutions by reaching educational institutes, research institutes, MSMEs, and various industries.

**The National Innovation Foundation (NIF) - India** was set up by the government's Department of Science and Technology in 2000. The foundation seeks to create a knowledge-based society by expanding policy and institutional space for grassroots technological innovators. The NIF's database contains over 310,000 technological ideas, innovational, and traditional knowledge practices to support innovators at the grassroots level. The NIF has also put in place mechanisms to ensure scale-up and further adaptation for wider dissemination in society through commercial, non-commercial channels, and incentivizing innovators.

The **Millennium Alliance (MA)** is known as "an Innovation Partnership for Global Development Impact." It is a consortium that includes the Department of Science and Technology, the Government of India, USAID, FICCI, DFID, Facebook, Marico Innovation Foundation and UnLtd. India.<sup>100</sup> The program has been running since 2011 and provides funding, capacity building, and business development support to Indian social enterprises.

The MA platform has supported 124 social innovation projects to date. A total of 22 Indian social enterprises have replicated and scaled their innovations in 22 states across the country. These projects have also been implemented in other countries, including Kenya, Ethiopia, Malawi, Burkina Faso, Rwanda, Uganda, Tanzania, Afghanistan, Bangladesh, Sri Lanka, Kenya, and Nepal. The MA provides innovators with an opportunity to procure additional funds from external sources that include the government and the private sector. Notably, the enterprises supported by MA have been further able to leverage significant additional funds from external sources, including the government and private sector. This is primarily due to their association with the platform and the impact they generated with the support received from the platform. MA has a well-established Application Process Cycle from call to applications, application screenings, and pitching of ideas by applicants through to the selection of awardees and granting of support and post-award support (see Figure 9).

MA typically offers three types of grants and support to applicants: Stage 1 (i.e., Piloting or testing an innovation), Stage 2 (i.e., Scaling or replicating an innovation that has been successfully piloted), Stage 3 (i.e., South-South cooperation/innovation for developing countries),<sup>102</sup> with fixed amounts for each type of support. Post Awards Management is also a significant aspect of the MA approach. FICCI assigns a dedicated Award Manager for each of the innovation awards who works closely with the awardee to monitor the progress of each awarded project, assist in identifying support needed, and connect awardees with the range of services required to develop their innovative business models and bring their innovations to scale.

The MA includes innovations in sectors related to disaster management, agriculture (i.e., food security), clean energy/climate, education, health, and water and sanitation.

99 [https://aim.gov.in/AIM\\_Brochure.pdf](https://aim.gov.in/AIM_Brochure.pdf)

100 [http://www.millenniumalliance.in/about\\_us.aspx](http://www.millenniumalliance.in/about_us.aspx)

101 [http://www.millenniumalliance.in/application\\_cycle.aspx](http://www.millenniumalliance.in/application_cycle.aspx)

102 [http://www.millenniumalliance.in/ma\\_awards.aspx](http://www.millenniumalliance.in/ma_awards.aspx)



Figure 9

### Millennium Alliance Application Process Cycle<sup>101</sup>



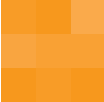
Furthermore, the MA has launched dedicated initiatives such as the “COVID-19 Innovation Grand Challenge,” seeking applications from Indian innovators, start-ups, entrepreneurs and corporates who have developed innovative solutions in response to the COVID-19 global crisis.<sup>103</sup> This supports Indian enterprises that have developed innovative and scalable market-ready or near to market-ready solutions to address the COVID -19 crisis.

### Challenges for innovation related initiatives

The limited access to financial provisions underlines the need for resource allocation beyond conventional DRR strategies in the country. Additionally, the private sector participation beyond the engagement of associations or networks like FICCI, has been limited over the years. It is, therefore, essential to engage the private sector, startups, and SMEs/MSMEs in the sector<sup>104</sup> in addition to other non-government actors to further strengthen the DRM framework. Furthermore, it is important to understand how these innovations, backed by the above challenges/initiatives, benefit the end-users and the targeted communities.

<sup>103</sup> <http://www.millenniumalliance.in/covid19.aspx>

<sup>104</sup> Based on information received via email from the Federation of Indian Chambers of Commerce and Industry on June 10, 2020.



## Strategies for sustainability

The Disaster Management Act of 2005 provides a policy framework to address natural hazards; however, the support and contribution of private sector partnerships are essential for developing disaster management strategies. Several exclusive pre-disaster mitigation tools exist that can be used for effective DRR. These innovative solutions can be supported through funding and mentoring that includes identifying solutions at the ground level. These solutions can be further nurtured to develop appropriate solutions.<sup>105</sup> Dedicated missions such as “Startup India,” “Digital India,” and “Make in India” have provided the foundation for an innovation ecosystem. Efforts are underway to structurally integrate and sustain innovations through institutional models and public-private partnerships.

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<sup>105</sup> Based on information received via email from the Federation of Indian Chambers of Commerce and Industry on June 10, 2020.



# Myanmar



## Definitions of innovation

There is an absence of a formal framework or legislation supporting social innovation in Myanmar, which means there are no formal definitions of innovation in the national context. Nonetheless, UNDP, working with Ooredoo Myanmar, defines innovation in the context of development: “innovation for development is about identifying more effective solutions that add value for the people affected by development challenges – people and their governments, our users and clients.”<sup>106</sup>

Notably, there is a broader recognition of the role that “Science, Technology and Innovation” (STI) can play in economic and social development in Myanmar, with a particular focus on how this can support the implementation of the country’s SDG Action Plan.<sup>107</sup> To enhance the research and development of STI, a Science, Technology, and Innovation Law was enacted by the Government of the Union of Myanmar in June 2018. To implement the objectives and priorities specified in the legislation, the National Science, Technology, and Innovation Council was established and convened its first meeting in April 2019 at the Ministry of Education (MoE), Nay Pyi Taw. The council’s initial meetings focused on reviewing and proposing legislation and formulating relevant policies to support STI in Myanmar. Currently, it remains to be seen whether this relatively new council and supporting framework will include social innovations and any focus on disaster management in its overall remit and mandate.

## Key stakeholders and main thematic focus of innovation activities in the country

Development partners, including the UN and the private sector, together with government agencies, have collaborated on selected innovation initiatives in the country since 2010. Social innovation initiatives in the humanitarian field commonly focus on addressing pertinent development issues in the country that are typically aligned with the SDGs. The UNDP and Ooredoo Myanmar-led Innovation Hub focuses on education, environment, and climate change with women empowerment as a cross-cutting theme. The Hackathon Series and Innovation Hub events are thematically aimed to address a combination of ICT topics with the SDGs. However, given the flexibility of thematic options available from 17 SDGs, as well as the UNDP Myanmar’s experience in promoting sustainable and inclusive growth, peace, and resilience, the Innovation Hub is expected to support further innovations that can address broader challenges in e-governance, finance, and disaster risk management. The initiative relies on youth engagement, creating a platform for participation in social innovation, and promoting digital entrepreneurship.

<sup>106</sup> <https://www.undp.org/content/undp/en/home/2030-agenda-for-sustainable-development/partnerships/sdg-finance--private-sector/innovation.html>

<sup>107</sup> [https://www.unescap.org/sites/default/files/Myanmar%20STI\\_UNESCAP.pdf](https://www.unescap.org/sites/default/files/Myanmar%20STI_UNESCAP.pdf)

## Current relevant innovation initiatives

**UNDP and Ooredoo Myanmar** organize the Innovation Hub, launched in February 2020, which provides a platform for Myanmar's youth to highlight innovative products or tools to accelerate the SDGs. Ooredoo Myanmar and UNDP signed an MoU in 2018 to unlock the potential of the ICT in achieving SDGs within the country. This initiative focuses on aspiring youth and women in Myanmar, which includes an annual Hackathon since 2018. The Hackathon platform is an inclusive platform for the youth to present their mobile app prototypes and business ideas. This innovation challenge sees participants compete with their mobile app prototypes and business plans that can provide innovative solutions to national development challenges. The winning participants are awarded financial and technical support.<sup>108</sup>

Both initiatives – the Hackathon series and Innovation Hub – strongly rely on the UNDP Myanmar's private sector partnership with Ooredoo Myanmar. All events are open to the public and accommodate participants from different fields and sectors. For example, during the Hackathon series and incubation sessions, participants included a diverse group of youth, including but not limited to university students, young entrepreneurs, and software developers. During the Innovation Hub's launch ceremony, or Tech 101 series, participants came from a wide range of fields, including national and international government agencies, private companies, development agencies, and CSOs.

Another example of DRM-specific innovation supported by UNDP is the "Disaster Alert Notification (DAN)" developed by the Department of Disaster Management (DDM), which was launched in June 2019.<sup>109</sup> The app serves as a mode of disseminating early warning information and more general information on disaster communication to the public and reflects the uptake and application of technology by the relevant government agencies in the DRM context.<sup>110</sup>

**The Yangon Region Government** facilitates the Yangon Innovation Center, which aims to provide opportunities for youth members to connect with technological companies. Since 2017, the Yangon Region Government worked on the innovation center, which was officially opened in July 2019. The center is the largest entrepreneur hub in Yangon. The operator, Seedstars, also offers free programs such as Seedstars Academy and Investors Readiness Program for startups. The center aims to build startup and innovation ecosystems in Yangon.

## Challenges for innovation related initiatives

The challenges faced by development partners working on innovation in Myanmar include barriers to scaling up and sustainability of startups after the incubation period. These barriers are associated with the lack of business skills, technical capacity, and

<sup>108</sup><https://www.mm.undp.org/content/myanmar/en/home/presscenter/pressreleases/2019/undp-hackathon-2019.html>

<sup>109</sup><https://www.globalnewlightofmyanmar.com/disaster-alert-notification-dan-application-launched/>  
<sup>110</sup><https://myanmar.gov.mm/documents/20143/0/DAN+Mobile+App+for+IDDR.pdf/0d3128f5-f780-518f-1c67-2b0e4c157bbc?t=1529724183184>

enabling environment, which constrain stakeholders. There is also a lack of investors attracted to startups, which is a challenge for stimulating innovation.<sup>111</sup>

## Strategies for sustainability

In the case of UN-led innovation initiatives, such as the UNDP and the Ooredoo-led Innovation Hub, the incubation program approach provides participants with ongoing technical support (e.g., training sessions and mentoring sessions to help develop business plans and launch products in the market). Both online and offline platforms provide opportunities for collaboration and networking. The UNDP Myanmar benefits from the broader UNDP global and regional expertise and experience in fostering and sustaining innovations. The Innovation Hub is integrated with these programs and initiatives, as it makes it more feasible to ensure sustainability and address barriers to sustainability.

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111 Information provided by UNDP Myanmar to ADPC in April 2020.



**Nepal**



## Definitions of innovation

There are a number of organizations engaged in the promotion and implementation of social innovation initiatives in Nepal, including those that are working in the humanitarian and disaster risk management fields. These activities are led by a range of organizations from INGOs, LNGOs, social enterprises, as well as the private sector.

World Vision's Innovation Lab is one of the foremost innovation initiatives in the country. Their approach to innovation in the context of addressing disaster-related challenges is described as "an entirely new approach to how humanitarian agencies respond to disasters. The complexities of a post-disaster context call for us to go beyond simply meeting immediate needs and instead create platforms that can support new partnerships, processes, and products to emerge."<sup>112</sup>

## Key stakeholders and main thematic focus of innovation activities in the country

NGOs and social enterprises have taken a strong lead in social innovation activities, working closely with a wide group of stakeholders and partners such as academic institutions, private companies, trade associations, LNGOs, community organizations, and government agencies as well as affected communities.

With many initiatives having emerged after the Nepal earthquake in 2015, social innovation activities related to disasters have tended to shift from their focus on response and immediate needs to longer-term concerns around disaster management and associated social and environmental issues, such as livelihoods. In this context, World Vision has promoted the transition from disaster recovery to sustainability in line with the strategy of build back better. The Innovation Lab supports partners to access start-up resources, shape project direction and strategic advice, test and prototype innovations, establish community networks, and publish results. Furthermore, it connects innovators with a strategic ecosystem of donors, investors, and stakeholders needed to scale up proven innovations. The lab attracts and tests new ideas, products, and processes that are not widely used within the humanitarian sector but can directly impact earthquake recovery and long-term development.<sup>113</sup>

Youth Innovation Lab (YI-Lab) has collaborated with the government's mandated department working on disaster management, Ministry of Home Affairs (MoHA), National Emergency Operation Centre (NEOC), providing technical support for the project Building Information Platform Against Disaster (BIPAD).<sup>114</sup> BIPAD is intended to be a one-stop platform developed with the concept of creating a national portal embedded with independent platforms for national, provincial, and municipal governments with a bottom-up approach to disaster data partnership.

<sup>112</sup> <https://www.wvi.org/sites/default/files/Together%20We%20Stand%20PDF-ilovepdf-compressed.pdf>

<sup>113</sup> Ibid.

<sup>114</sup> <https://youthinnovationlab.org/Initiatives/disaster-information-management-system>



Another YI-Lab initiative is the Community Impact Hub (CI-Hub). It is a volunteer-driven initiative that promotes a culture of entrepreneurship and innovation at the grassroots level. This hub helps enthusiastic young changemakers develop their ideas and provides proper guidance so they can create tangible solutions for their community's most pressing challenges. It creates a space for innovators and dreamers to collaborate and make a meaningful impact in society.<sup>115</sup>

## Current relevant innovation initiatives

**The World Vision Innovation Lab** was set up in 2015. It is a new model for responding to disasters and a platform for novel processes, partnerships, and products to emerge from a disaster response scenario. The lab has a fully equipped multimedia center in Kathmandu, which is connected to over 200 Wi-Fi-enabled remote villages. The lab supports partners to access start-up resources, shape project direction, strategic planning and problem-solving, test, prototype, establish community networks, publish results, and connect to the right ecosystem of donors, investors, and stakeholders who are necessary for scaling up proven innovations.

**The Youth Innovation Lab (YI-Lab)** is a social enterprise established in 2016. It aims to provide access to skills, knowledge, and tools for co-creating regenerative and inclusive innovation.<sup>116</sup> The YI-Lab aims to address societal challenges by equipping young people with cutting-edge technology. The lab's work centers on three main themes: 1) education and capacity building, 2) community building and outreach, and 3) professional services. They equip youth with mentorship, networking opportunities, and ample resources in these fields.

The **Innovation Hub** is a joint partnership between the U.S. Embassy, Kathmandu, and the Federation of Nepalese Chambers of Commerce (FNCCI). It is a library and creative space now open at the FNCCI building in Teku.<sup>117</sup> The Hub offers a wide range of resources for entrepreneurs, including incubator desks that provide entrepreneurs with a workspace and access to a specialized library of books and computer resources. The library is also open to the general public with books and programs for children, students, and adults. The hub activities include curated lectures on diverse topics - including DRM and environmental sustainability, design challenges, student research symposiums, etc.

**The National Innovation Center (NIC)** aims to develop a culture of research and innovation in Nepal, retain talented and creative people from going abroad, and cultivate their talent for the economic development of the nation, specifically through research, technology, and innovation. The center aims to address challenges such as the country's trade deficit (Nepal imports over 90% of the goods and exports less than 10%) by creating products and services within the country itself with a focus on science, information technology, and innovation.<sup>118</sup>

<sup>115</sup> <https://youthinnovationlab.org/Initiatives/Community-Impact-Hub>

<sup>116</sup> <https://youthinnovationlab.org/newindex>

<sup>117</sup> [www.fncci.org/innovation-hub-159.html](http://www.fncci.org/innovation-hub-159.html)

<sup>118</sup> <https://nicnepal.org>

## Challenges for innovation related initiatives

The World Vision's Innovation Lab for the Nepal Earthquake Response faced three major challenges.<sup>119</sup> The first was innovating with and for the benefit of the most vulnerable people in the world. The lab aimed to increase the role of the private sector by supporting the capacity of innovative people and building the capacity of communities and emerging markets. The second was integrating the innovation capacity of the private sector with the expertise of NGOs and communities in Nepal. The Innovation Lab offered a physical and virtual space to facilitate partnerships between a range of local and international actors, with individuals and organizations from an array of backgrounds and experiences working together to achieve success for recovering communities. The final challenge was demonstrating to others that innovation can help communities build back better after a catastrophe. The Innovation Lab aimed to produce practical, useful, replicable, and scalable solutions leading to greater investment in developing countries.

In a broader context, innovation initiatives in the country have been inhibited by the absence of a conducive enabling environment for promoting innovation or entrepreneurship and lack of support in terms of seed funding or grants.<sup>120</sup> While there appears to be a relatively burgeoning social innovation scene in the country with high potential amongst individual organizations, there is a need for additional support systems, policies, and a nodal government agency to foster a more coherent and systematic approach for innovation.

## Strategies for sustainability

Many of the successful innovations, tools, and products have been integrated into World Vision's projects and programs. The project demonstrated the benefit of the Innovation Hub, working closely with its parent INGO. Simultaneously, independent social enterprises such as YI-Lab have worked using the model that provide back end support during the project phase. The intention of such projects is that the products will be handed over to end users who receive training and guidance on how to maintain and utilize the tools going forward (e.g., government officers under the Building Information Platform Against Disaster (BIPAD) initiative).

A nodal agency that has adequate financial support and guidelines to look after and promote innovation is necessary. Likewise, many development agencies working in humanitarian work and disaster risk management are focused on post-disaster initiatives, rather than analyzing the main causes of disasters and logical and scientific solutions. Therefore, many innovative ideas and initiatives lack the longevity to produce sustainable solutions and often fail during the initial stages.

<sup>119</sup>World Humanitarian Summit (2016). 'Together We Stand'. <https://www.wvi.org/sites/default/files/Together%20We%20Stand%20PDF-ilovepdf-compressed.pdf>

<sup>120</sup>Interview with World Vision Innovation Lab representatives conducted by ADPC in April 2020



# Pakistan



## Definitions of innovation

While there is no formally accepted definition of innovation or social innovation, national civil society organizations are the pioneers of most innovation-related activities in Pakistan. The Health and Nutrition Development Society (HANDS) refers to innovation as new ideas that can be beneficial for the betterment of communities. NGOs working in this field are ensuring that the community based integrated models are inclusive of innovation.<sup>121</sup> This model includes the integration of indigenous/local information into DRR decision making and in program implementation. It also includes innovation through inclusiveness and participatory approaches, such as incorporating the perspective of persons with disabilities, women, and the extremely vulnerable. Other innovations include those generated through policymaking such as customized relief packages for persons with disabilities, such as customized wheelchairs. These initiatives include the use of technology, such as the use of tablets and mobile phones to facilitate a needs and feedback mechanism for communities.

## Key stakeholders and main thematic focus of innovation activities in the country

Most innovative initiatives in the country are primarily centered around the NGO/CSO sectors. The HANDS Disaster Risk Management Centre (DRMC) model encompasses a variety of services, including coordination among different stakeholders which includes government, community, local political leaders, the private sector, development partners (NGOs & INGOs), media, notable community persons, local religious leaders, local philanthropists, and academia.<sup>122</sup> However, the extent to which the model acts as a coherent mechanism to foster or support innovation is currently limited. This dynamic has led to a more significant role for intergovernmental organizations, UN agencies, international donors, INGOs, the National Disaster Management Authority (NDMA), and the federal government in promoting and fostering social innovation.

Environmental sustainability is related to innovations as pioneered by HANDS, which focuses on working with communities through a range of initiatives. These include the utilization of innovative tools such as smokeless stoves for more fuel-efficient and environmentally friendly techniques, as well as novel drip irrigation techniques to address challenges arising from water scarcity.<sup>123</sup>

## Current relevant innovation initiatives

Relevant innovation initiatives targeting the humanitarian sector and DRM themes are largely limited to the NGO and CSO sectors of which the national CSO, HANDS, is the most prominent example. HANDS works both proactively on risk reduction, planning and preparedness, and re-actively response, relief, recovery, and rehabilitation.

<sup>121</sup> Interview with HANDS conducted by ADPC in April 2020

<sup>122</sup> <http://www.hands.org.pk/2012/media/pdfs/HANDS%20Philanthropy%202016.pdf>

<sup>123</sup> <http://www.hands.org.pk>

The organization has established institutional structures across Sindh and Punjab, known as the Disaster Risk Management Centers (DRMCs), after the floods of 2010. These are 12 well-equipped centers across Sindh (Karachi, Thatta, Badin, Hyderabad, Matiari, Sanghar, Mirpur Khas, Umerkot, Sukkur, Ghotki, and Jacobabad), and Punjab (Muzaffargarh). The objective of the DRMCs is to identify, prevent, and/or reduce the occurrence of disasters, and to lessen the impact of those natural calamities. DRMCs play a pivotal role before, during, after a disaster. They also perform a coordination role at the provincial and district levels to ensure that multiple emergency and essential services work in an integrated and efficient manner.

The Government of Pakistan has endorsed innovation initiatives launched by larger development partners in the country, including an innovation grants mechanism as part of a wider program: **Pakistan Evidence and Learning Platform (PELP)** by the United Nations Institute for Training and Research (UNITAR) and DFID. The PELP innovation grant mechanism was initiated in February 2018. It was designed to boost innovation in support of the humanitarian development nexus.<sup>124</sup> It also aimed to identify and support the development, testing, and potential scaling up of innovations for humanitarian action while encouraging collaboration between actors, including the private sector, to co-invest in ideas that can influence humanitarian action for greater impact.

An example of innovation uptake and utilization in the national disaster management field is the **NDMA** experience of designing and utilizing a cash transfer program with reference to flooding and disaster events that have impacted the country in the recent past. The need for the “Watan Card,” which is a dedicated cash transfer program, arose when it was clear that traditional modes of cash transfers as a relief tool in the wake of disaster events were not achieving targeted and verifiable disbursement of funds.<sup>125</sup> The overview of the concept and process of the “Watan Card” is displayed in Figure 10 below.<sup>126</sup>

Figure 10  
NDMA’s “Watan Card” Cash Transfer System<sup>126</sup>



Switching to a new mode of cash disbursement via ATM cards utilized a technological solution. This led to a more efficient system for disbursement of emergency funds for compensation for human loss, injury, relief or livelihood support, cash assistance for housing damages as well as business revitalization programs. The approach is considered an innovation in the national context as it provided a quick disbursement of cash compensation while ensuring maximum transparency, minimized the duplication of efforts, and reduced cumbersome procedures for the beneficiaries.

<sup>124</sup> <https://www.unitar.org/about/news-stories/news/dfid-and-unitar-launch-innovative-platform-deliver-transformational-change-humanitarian-work>

<sup>125</sup> Information adapted from presentation delivered at the “APP Innovations Forum for Safer Asia”, December 2018

<sup>126</sup> Information sourced from presentation delivered at the “APP Innovations Forum for Safer Asia”, December 2018.

## Challenges for innovation related initiatives

Challenges in the context of social innovation range from resource mobilization issues, restrictions on NGOs who are the main drivers in this field, differing priorities, lack of commitment from government, as well as hurdles in reaching and aligning expectations of end-users in the community. Overall funding to humanitarian organizations is squeezed, and government regulations for both INGOs and LNGOs are challenging. Social innovation and DRR are not priorities of the government, which indicates a lack of commitment to achieve or complete targets in a timely manner. In terms of engaging community or end-users for innovation-related activities, there are security issues in hard-to-reach and tribal areas, as well as difficulty in meeting community expectations.

## Strategies for sustainability

Currently, the innovation initiatives referenced in this study are primarily led by the NGO sector, which are generally ad-hoc or responsive. They tend to be designed and implemented to address particular issues that have been identified at the community level, after which dedicated action or relevant projects are launched and rolled out. Overall, innovations have not yet been identified or fostered systematically. Nonetheless, the benefit of NGO actors (e.g., HANDS) already working in this field in Pakistan is that they receive consistent philanthropic support on an annual basis and they already work in close collaboration with networks who are committed to addressing DRR and humanitarian needs in the country.<sup>127</sup> As a result, the existing institutional arrangements and landscape are conducive to potential innovation platforms to be introduced in the future for a more systematic and strategic approach.

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<sup>127</sup> HANDS are members of established networks such as GNDR (Global Network for Disaster Reduction), Sindh DRR forum, CEC member of NHN Pakistan, CHS Alliance (Core Humanitarian Standards), Emergency Response Forum formed by Commissioner Karachi on Emergency Response activities and active in working groups of WASH, Nutrition, FSL, Health and Protection at national and provincial level.



# Philippines



## Definitions of innovation

The term “innovation” has been formalized and defined in relevant legislation, namely, the “Philippine Innovation Act” (Republic Act No. 11293). A formal definition reflects the mature landscape and framework for promoting social innovation in the country. The act was passed in April 2019, making this development relatively new. The act defines “innovation” as “the creation of new ideas that result in the development of new or improved products, processes, or services which are then spread or transferred across markets.” Furthermore, the act mandates the creation of the National Innovation Council (NIC), which steers the whole-of-government coordination and collaboration, and aims to address fragmentation in the country’s innovation governance. The NIC is also tasked to set the direction of national innovation goals, priorities, and long-term national strategies through the formulation of the National Innovation Agenda and Strategy Document (NIASD).

Additionally, there is a particular focus on “inclusive innovation” when it comes to implementing the aforementioned legislative framework. “Inclusive innovation” refers to “the creation of new ideas that result in the development of new or improved products, processes, or services that create value to society and help improve the welfare of lower-income and marginalized groups.”<sup>128</sup> Furthermore, the act makes provision for an Innovation Fund, which is to be administered by the NIC to “serve as a source of strategic intelligence for national research and innovation policymaking [and to] identify and approve programs that may qualify for funding.”<sup>129</sup> The main goal of the fund is “to strengthen entrepreneurship and enterprises engaged in developing innovative solutions benefiting directly or indirectly, the poorest of the poor.” It notably identifies priority areas for innovation, which include climate change and disaster resilience.

## Key stakeholders and main thematic focus of innovation activities in the country

There is a range of different actors engaged at various levels in innovation initiatives. National government agencies such as the National Economic and Development Authority (NEDA), the Department of Trade and Industry (DTI), and the Department of Science and Technology (DOST) are responsible for the administration of the relevant national law, together with funding that targets micro, small, and medium enterprises (MSMEs) and the general public. Similarly, relevant government agencies, such as the DOST, have promoted innovation expos that focus on topics such as disaster preparedness to engage the general population. Innovation challenges, labs and co-working spaces, training and mentorship programs, and funding in the country involves NGOs and CSOs, as well as international funders and networks.

As noted in the previous section, there are a number of social sustainability initiatives focusing on DRM within the broader scope of addressing humanitarian challenges, environmental, and social issues. The particular thematic focus related to DRM and disaster management includes disaster preparedness, such as supporting local solutions for DRRM as pioneered by TUKLAS,<sup>130</sup> inclusive innovation in DRR (e.g., involvement of

<sup>128</sup> <https://www.officialgazette.gov.ph/2019/04/17/republic-act-no-11293/>

<sup>129</sup> <http://www.neda.gov.ph/the-philippine-innovation-act/>

<sup>130</sup> <http://a2dproject.org/tuklas-announces-top-disaster-preparedness-innovations/>



persons with disabilities),<sup>131</sup> earthquake resilience, response in Greater Metro Manila Area (GMMMA), and community-based innovations.<sup>132</sup>

## Current relevant innovation initiatives

As noted above, the landscape for fostering innovation is considerably mature, with a number of ongoing initiatives and platforms for social innovation already in place. Several of these are specifically focused on humanitarian issues and target different aspects of disaster management.

The Philippines TUKLAS Innovation Labs is a community-centered innovation project that searches for ideas to better prepare communities for disasters, including ideas to address the impacts of disease outbreaks and armed conflict.<sup>133</sup> It is run by a consortium of Plan International, Citizen Disaster Response Center, CARE, and Action Against Hunger. Through a committee selection process, the lab selected 40 innovation teams from four regional innovation fairs that receive training, mentorship, and up to 1 million Philippine Pesos (around USD 50,000 in funding to test their innovations. TUKLAS runs innovation labs in multiple cities to support innovators in transforming their ideas into viable solutions. These cities are Baguio City, Quezon City, Tacloban City, and Cotabato City.<sup>134</sup> The labs also provide co-working spaces and link applicants with experts. This aspect of the lab is a part of the DEPP Innovations Labs, which is part of the Start Network (described in the previous section of this report).

ADRRN Tokyo Innovation Hub (ATIH) began to facilitate initiatives that promote localized innovation. With support from Elrha Humanitarian Innovation Fund (HIF), ATIH has been collaborating with the Center for Disaster Preparedness (CDP) of the Philippines to select and mentor eight groups of enthusiasts. These groups have formulated eight innovative ideas that would contribute to building resilience against a big earthquake that is expected to occur in Metro Manila anytime within the next 50 years. Seven groups prepared proposals and recommendations after several months of base research, concept formulation, and workshops.<sup>135</sup> Their journey started with the identification of the problem, through to developing innovative solutions, which have been documented in a publication called "Starting Innovations." The publication was sponsored by Philippine Preparedness Partnership (PHILPREP). Three proposals have recently been shortlisted for a GBP 30,000 grant (approximately USD 40,000) for further development. In April 2020, one or two from the three shortlisted proposals will be selected for a GBP 50,000 grant (approximately USD 68,000), which will cover the implementation of these proposals over the next year.<sup>136</sup>

The Innovation on Disaster Preparedness and Response Expo was planned for March 2020 by the DOST. However, the event was postponed due to the COVID-19 pandemic.<sup>137</sup> The event was designed as a free event for public access, with technology exhibits and

<sup>131</sup> <https://www.bworldonline.com/sparkup-community-building-inclusive-innovations-in-disaster-risk-reduction>

<sup>132</sup> <https://www.cdp.org.ph/hif-call-for-application>

<sup>133</sup> <https://startnetwork.org/philippines-tuklas-innovation-labs>

<sup>134</sup> <https://www.pressreader.com/philippines/sunstar-baguio/20190223/281556587108078>

<sup>135</sup> <https://adrrninnovationhub.org/news/1175/>

<sup>136</sup> <https://www.cdp.org.ph/hif-call-for-application>

<sup>137</sup> <http://www.dost.gov.ph/knowledge-resources/news/67-2020-news/1796-postponement-of-the-handa-pilipinas-expo-2020-2020-03-11.html>

forums by DRRM officers from various government agencies. The expo intends to include the showcasing of DOST's technologies, innovations, and initiatives on DRRM.<sup>138</sup>

## Challenges for innovation related initiatives

Sustainable investment and financing have been highlighted as a challenge for inclusive innovation.<sup>139</sup> Proper funding is crucial to ensure that innovations aimed at protecting the most vulnerable populations are supported from ideation to implementation. This concept is in line with the aspiration of leaving no one behind in efforts towards national development. Capacity building and awareness-raising, as well as ongoing support to foster local innovations, were also highlighted as key hurdles. Necessary support is needed to promote local, small-scale, incremental innovations based on consultations with stakeholders working at the local level in humanitarian actions for preparedness.<sup>140</sup> This need highlights the value of technical and other non-financial resources in building and sustaining traction for innovative ideas and initiatives.

## Strategies for sustainability

Identifying and engaging potential investors from both the private and public sectors is regarded as a vital factor in ensuring initiatives maintain momentum. Partnerships with NGOs and relevant academic institutions can assist innovation initiatives and innovators to develop their products and services further.<sup>141</sup> There is an opportunity to mobilize much needed financial and non-financial resources from various sources to encourage initiatives towards resilience building. Using a multi-stakeholder approach to DRM, innovators rely on networks with similar development agendas to sustain their initiatives. Consultative workshops with local communities and partner organizations are imperative to ensure that innovative products and tools are demand-driven and address pertinent issues. Moreover, the monitoring and documentation of experiences (including good practices and learnings) as well as platforms for knowledge sharing to disseminate these learnings were also noted as important considerations in making innovations sustainable.<sup>142</sup>

<sup>138</sup> <https://news.mb.com.ph/2020/02/23/dost-to-hold-expo-on-disaster-preparedness-and-response>

<sup>139</sup> <https://www.bworldonline.com/sparkup-community-building-inclusive-innovations-in-disaster-risk-reduction>

<sup>140</sup> Based on telephone interview with Ms. Loreine Dela Cruz of Center for Disaster Preparedness (CDP) conducted by ADPC on 03 April 2020

<sup>141</sup> <https://www.bworldonline.com/sparkup-community-building-inclusive-innovations-in-disaster-risk-reduction>

<sup>142</sup> Based on telephone interview with Ms. Loreine Dela Cruz of Center for Disaster Preparedness (CDP) conducted by ADPC on 03 April 2020



**Sri Lanka**



## Definitions of innovation

There have been numerous national frameworks established highlighting science, technology, and innovation as a priority for economic development by the Government of Sri Lanka over the past two decades. These development frameworks<sup>143</sup> include publications by the Ministry of Finance and Planning (e.g., “Mahinda Chinthana” – Vision for the Future (2010) and “Unstoppable Sri Lanka 2020”), the “Public Investment Strategy 2014-2016” (2013), and the Ministry of Technology and Research’s Science, Technology and Innovation Strategies (for 2008 and 2011-2015). Despite these efforts, there is still an absence of a formal definition of innovation.

The UNDP Sri Lanka has partnered with the Ministry of Higher Education, Technology, and Innovation to address social innovation in the context of the humanitarian sector in Sri Lanka. They have termed innovation as: “the ability to respond and adapt to change.”

## Key stakeholders and main thematic focus of innovation activities in the country

There is a range of several types of stakeholders engaged in innovation and social innovation initiatives to varying degrees. They include government (both central and local government authorities), private sector organizations, CSOs, academia, communities, as well as UN agencies and development partners. These different actors are engaged in organizing, coordinating, and implementing innovation projects. However, in many cases, these may be ad-hoc interventions or components of other ongoing concerns rather than dedicated innovation programs.

Innovation initiatives over the past decade have aimed to address development challenges but have focused more on scientific and technology-based solutions as opposed to promoting social innovation. For example, the Asian and Pacific Centre for Transfer of Technology (APCTT), under the United Nations Regional Institution under the Economic and Social Commission for Asia and the Pacific (UNESCAP) co-organized a meeting on “Evidence-Based Science Technology and Innovation (STI) Approaches to Achieve Sustainable Development Goals” for senior policymakers from the Asia-Pacific Region together with the Coordinating Secretariat for Science, Technology, and Innovation (COSTI) and the Ministry of Finance and Planning Colombo, Sri Lanka. The subsequent Colombo statement on STI for Sustainable Development concluded that “evidence-based STI is an essential driver of sustainable development,” and recognized that cross-border STI insights, capacity building, and synergies are necessary for national development. The policymakers recommended effective international collaborative mechanisms be instituted to harness evidence-based STI for achieving sustainable development goals.<sup>144</sup>

**Citra** is a joint initiative between the Ministry of Higher Education, Technology and Innovation, and UNDP Sri Lanka. It has pioneered a number of project-based innovations aimed at addressing development challenges, which include addressing environmental and disaster-related areas. The same Ministry established **COSTI** in 2013, with the specific

<sup>143</sup> World Intellectual Property Organization (2015). ‘Integrating Intellectual Property into Innovation Policy Formulation in Sri Lanka.’ [https://www.wipo.int/edocs/pubdocs/en/wipo\\_report\\_inn\\_lk.pdf](https://www.wipo.int/edocs/pubdocs/en/wipo_report_inn_lk.pdf)  
<sup>144</sup> [http://costi.gov.lk/images/phocadownload/Colombo\\_Statement\\_Final.pdf](http://costi.gov.lk/images/phocadownload/Colombo_Statement_Final.pdf)

aim of coordinating and monitoring Science, Technology, and Innovation activities in the country.

Citra has worked with stakeholders to design a prototype disaster relief coordination platform known as “Share Hub”: Disaster Response Management System, which was launched in 2018. The system is used as a response coordination tool for the UN Resident Coordinator’s Office and the HCT. The system allows HCT members to enter and access information on the various hazards that Sri Lanka’s humanitarian agencies are responding.<sup>145</sup>

The **HackaDev** program of UNDP Sri Lanka encourages youth to acquire the necessary skills to develop innovative solutions, be entrepreneurial, and contribute towards the economic, social, and environmental development. The hackathon was initially piloted as a social innovation in 2015, and was scaled up nationally in 2017.<sup>146</sup> The challenge involves a public call for applications whereby eligible teams are selected to compete and pitch ideas for seed funding and incubation support.<sup>147</sup> A related initiative, **The National Youth Social Innovation Challenge** is Sri Lanka’s premier platform for youth to provide innovative solutions to development challenges in line with achieving the Sustainable Development Goals.

Recently, active agencies who have focused on social innovation have focused on climate change and DRR towards building the resilience of people addressing issues related to environmental, social, and economic aspects. Such innovations have included initiatives related to climate change adaptation, including development, testing, and scaling-up climate-smart agriculture practices and technologies, developing new home gardening technologies, and establishing technologies to manage urban home gardens promoted by UNDP and government organizations (Agrarian Services). Furthermore, innovations related to climate change mitigation include development, testing, and promotion of new biogas technologies by local government authorities, development and pilot testing of new waste management approaches by private sector and civil society organizations, as well as green energy championship programs for facilitating innovation among different groups.<sup>148</sup>

## Current relevant innovation initiatives

In recent years there have been a number of organizations engaged in social innovation activities, and dedicated innovations labs have been established. However, these organizations do not have a specific focus on humanitarian issues or disaster management. The **Citra Innovation Lab** is Sri Lanka’s first social innovation lab established in 2017 as a joint initiative between the Ministry of Higher Education, Technology and Innovation, and UNDP, Sri Lanka.<sup>149</sup> It uses foresight and innovation tools to prototype and test development solutions to ensure they are agile and holistic before nation-wide implementation. Citra facilitates the creation of an environment that is conducive to looking at problems from different perspectives and delivers comprehensive and sustainable development solutions.

<sup>145</sup> <https://www.citralab.lk/content/citralab/en/home/projects/road-safety-in-colombo.html>

<sup>146</sup> <https://www.lk.undp.org/content/srilanka/en/home/youth-and-innovation/projects/HackaDev.html>

<sup>147</sup> <https://www.citralab.lk/content/citralab/en/home/projects/project4.html>

<sup>148</sup> Interview with Janathakshan representatives conducted by ADPC in May 2020

<sup>149</sup> <https://www.citralab.lk/>

The aforementioned **Ministry of Higher Education, Technology, and Innovation** plays a significant role in the contribution of national development goals. Specifically, the ministry guides public research institutes to engage in demand-driven research, research commercialization, promoting inventions and innovations, facilitating standards, and certification, etc. COSTI works towards promoting value addition and commercialization in line with the National Science Technology and Innovation (STI) Strategy of Sri Lanka.<sup>150</sup> The COSTI maintains a “Sri Lanka Innovation Dashboard,” which provides information about the current status of the country, with regard to STI. The main purpose of the dashboard is twofold: 1) to ensure the delivery of stable, reliable, and accessible collections of institutional and people data in electronic form for shared access by the community, and 2) to support the National STI strategy by providing national STI information that can be an integral part of decision-making, competitive positioning, and focus on value-adding areas.<sup>151</sup>

Other relevant stakeholders include the **Sri Lanka Inventors Commission**, which provides the necessary support for inventors in the country, such as financial support, patent support, as well as organizing exhibitions and ceremonies. The **Ceylon Chamber of Commerce** is a private sector chamber that organizes an Annual Innovation Summit. The event focuses on business innovations and maintains a business start-up co-working space for 20 start-ups that have not been previously linked to humanitarian or DRM concerns.<sup>152</sup>

Local humanitarian actors and NGOs have launched a number of innovation projects and programs associated with DRM. For example, “innovations” is one of the key thematic areas of the strategic road map 2017 – 2022 of **Janathakshan (GTE) Ltd.** Janathakshan means “people’s technology” or “technology for people.” The organization promotes sustainable and green solutions, and innovation is a cross-cutting issue throughout the organization’s nine thematic areas. Janthakshan encourages its project teams to develop, test, and scale-up innovative ideas, including DRR and climate change mitigation and adaptation solutions.<sup>153</sup>

Another notable example of innovation in Sri Lanka directly relevant to disaster management is the mass alert early warning system, called **Disaster Emergency Warning Network (DEWN)**. The system was conceptualized as a result of a successful public-private partnership between Dialog Axiata PLC, a telecommunications company, and the Government of Sri Lanka.<sup>154</sup> Dialog had recognized the need for an enhanced mechanism for mass scale warning, which had been underlined by the major loss of life in the country as a result of the 2004 Indian Ocean Tsunami.

Working together with the Disaster Management Centre (Ministry of Irrigation and Water Resources and Disaster Management), Dialog was able to develop what has been termed as “South Asia’s First Public Alerting Network.” The DEWN system has evolved over a number of years to incorporate new features and take advantage of updated technology to add additional features and enhanced usability. Specific impacts and evolution of the DEWN system are summarized in Figure 11.<sup>155</sup>

150 <http://costi.gov.lk/index.php/en/about-us/what-is-costi>

151 <http://dashboard.costi.gov.lk/home/>

152 Interview with Ceylon Chamber of Commerce representatives conducted by ADPC in April 2020

153 <https://janathakshan.com/>

154 <https://www.dialog.lk/disaster-and-emergency-warning-network-dewn>

155 Information sourced from presentation delivered at the “APP Innovations Forum for Safer Asia”, December 2018.

Figure 11

**Impact and Evolution of the DEWN System<sup>155</sup>**



**Challenges for innovation related initiatives**

Dedicated government agencies working on innovation related initiatives have not necessarily translated into tangible support that promotes and maintains social innovation. Bureaucracy and hierarchical structures are seen as hindrances to initiatives and innovation across the public sector. Individuals, despite being “skillful people that are open-minded and forward-thinking,” lack agency to create change.<sup>156</sup>

Private sector stakeholders cited a lack of collaboration and government support as key challenges, along with the lack of a conducive enabling environment and incentives/resources as significant barriers to institutionalizing innovative ideas.<sup>157</sup> The absence of government incentives for research and development (R&D) and poor implementation of intellectual property (IP) laws to protect ownership have specifically discouraged private

<sup>156</sup> UNDP (2018). ‘Embracing Innovation - How a Social Innovation Lab can support the innovation Agenda in Sri Lanka.’ <https://www.undp.org/content/dam/citralab/documents/1.pdf>

<sup>157</sup> Interview with Ceylon Chamber of Commerce representatives conducted by ADPC in April 2020

entrepreneurs or organizations to partner with government or universities to develop, promote, and disseminate innovative products, services, and tools.<sup>158</sup>

From an NGO perspective, key challenges for fostering and supporting innovation include the lack of finance for research, development and pilot testing, outreach, and dissemination. They are also inhibited by poor IT infrastructure facilities, and the lack of collaboration among relevant institutions and authorities. Development partners, such as UNDP Sri Lanka, have conducted assessments regarding innovation in the country, which highlighted the distinct urban-rural divide, in which access and priority to engage in such initiatives tend to be centered around metropolitan areas, particularly the capital, Colombo.

## Strategies for sustainability

Some NGOs, such as Janathakshan, have adopted innovation as a key thematic priority. They have made efforts to integrate innovation into their organizational business plans. They have achieved this by integrating innovation initiatives with existing programs/projects, building linkages with relevant stakeholders, widely disseminating the findings of the pilot initiatives, and presenting to potential donors to explore the possibilities for scaling up solutions.<sup>159</sup>

UN agencies in the country have aimed for sustainability of innovative projects by integrating them into ongoing programming in relevant agencies, including the humanitarian country team and local authorities at the municipal level.<sup>160</sup>

Support from the government has been identified as a key factor by development agencies working on social innovation towards joint initiatives with relevant ministries, departments, and agencies. With the necessary buy-in from the government, initiatives targeting young entrepreneurs and innovators such as HackaDev and the National Youth Social Innovation Challenge have been promoted as annual, ongoing events.<sup>161</sup>

158 World Intellectual Property Organization (2015). 'Integrating Intellectual Property into Innovation Policy Formulation in Sri Lanka.' [https://www.wipo.int/edocs/pubdocs/en/wipo\\_report\\_inn\\_lk.pdf](https://www.wipo.int/edocs/pubdocs/en/wipo_report_inn_lk.pdf)

159 Interview with Janathakshan representatives conducted by ADPC in May 2020.

160 <https://www.citralab.lk/content/citralab/en/home/projects/engagement-with-colombo-municipal-council-.html>

161 UNDP (2018). 'Embracing Innovation - How a Social Innovation Lab can support the innovation Agenda in Sri Lanka.' <https://www.undp.org/content/dam/citralab/documents/1.pdf>



# Landscape Analysis: Innovation for Disaster Risk Management in Asia



The previous sections of the report mapped noteworthy innovation initiatives at global, regional and country levels. The table below synthesizes and summarizes key innovation initiatives and organizations active in Asia, particularly in APP member countries, Bangladesh and India. While this is not an exhaustive list of innovation initiatives in the region, it provides an overview of the existing key players and stakeholders active in DRM and humanitarian innovation.

### Summary of Key Innovation Initiatives and Organizations

Name of the Key Innovation Initiative or Organization	Geographical Scope of the Initiative (Global, Regional or Specific Countries)	Organization or Agency Hosting/Leading the Initiative	Key Themes of the Initiative
LEED Forum on Social Innovations	Global	Organization for Economic Co-operation and Development (OECD)	Social innovation; Policies; and International cooperation
Humanitarian Innovation Fund (HIF)	Global	Enhancing Learning and Research for Humanitarian Assistance (ELRHA) & Active Learning Network for Accountability and Performance in Humanitarian Action (ALNAP)	Humanitarian assistance; Innovation process; and Guide on Innovation
Disaster & Emergencies Preparedness Programme (DEPP) Innovation Labs	Global (with innovation labs in Bangladesh, Jordan, Kenya, and the Philippines)	The Start Network	Humanitarian challenges; Collective innovation; and Locally-led innovation
Expo Live Global Innovators	Global	Expo 2020 Dubai	Access to innovations; and Humanitarian innovation
“Creating Hope in Conflict: a Humanitarian Grand Challenge”	Global	USAID, UK Department of International Development (DFID), Ministry of Foreign Affairs of the Netherlands with support from Grand Challenges Canada	Scaling innovations; and Private sector engagement
Youth Co: Lab	Asia-Pacific	UNDP	Youth engagement; and Sustainable Development Goals
The Response Innovation Lab (RIL)	Selected countries: Jordan, Uganda, Iraq, and Somalia	World Vision, Oxfam, Save the Children, Civic, George Washington University, and the Centre for Humanitarian Leadership as Founding Members	Disaster response and resilience; Matchmaking; and Collaboration
SERVIR-Mekong’s Grants Program	SERVIR-Mekong focus countries: Cambodia, Lao PDR, Myanmar, Thailand, and Vietnam	SERVIR-Mekong, United States National Aeronautics and Space Administration (NASA), USAID & ADPC	Climate change; Environmental management; Disaster risk management; and Geospatial technologies
BRAC	Primarily Bangladesh	N/A	Community-led approaches; Disaster resilience; and Humanitarian response
Impact Hub Phnom Penh	Cambodia (part of global network)	Impact Hub global network	Sustainable Development Goals; and Social enterprises
Millennium Alliance (MA)	Primarily India	Government of India, USAID, FICCI, DFID	Disaster management; Mentoring; and Business development

Name of the Key Innovation Initiative or Organization	Geographical Scope of the Initiative (Global, Regional or Specific Countries)	Organization or Agency Hosting/Leading the Initiative	Key Themes of the Initiative
Innovation Hub	Myanmar	UNDP and Ooredoo Myanmar	Youth engagement; Technology; and Sustainable Development Goals
Youth Innovation Lab (YI-Lab)	Nepal	N/A	Social enterprise; Education and capacity building; and Youth Engagement
The World Vision Innovation Lab	Nepal	World Vision	Disaster Response; Innovation incubation and mentoring
Health and Nutrition Development Society (HANDS)	Pakistan	N/A	Disaster risk management; Civil society; and Community engagement
Innovation on Disaster Preparedness and Response Expo	Philippines	Department of Science and Technology (DOST), Philippines	Disaster Preparedness and response; and Technology
Citra Innovation Lab	Sri Lanka	Ministry of Higher Education, Technology and Innovation, Sri Lanka and UNDP	Technology; Social innovation; Humanitarian response; and Disaster Management

Furthermore, this section of the study proposes a framework (i.e., methodology, criteria, and analysis) for assessing the current status of innovation for DRM for selected countries in the Asia region. It draws upon the narrative description and mapping of existing innovation initiatives that have been compiled from primary and secondary data sources presented in the previous section of this report. The results arising from this analysis and critical assessment will form the “baseline” to inform the scope and approach of APP activities for identifying, nurturing, and disseminating cost-effective innovations for DRM in the region.

The proposed framework is based on the hypothesis that there are key factors or “enablers” for innovation for DRM. Five key enablers of innovation include, **1) Partnerships**, **2) Policy Directives & Frameworks**, **3) Champions**, **4) Access to Funding**, and **5) Expertise & Capacities**, which are presented in the table below. It is important to note that these are by no means the only enablers of innovation, however, these five factors have been selected due to the strength of their influence, or because they were evident as common trends across multiple cases and documented examples presented earlier in this study.

## Enablers for Innovation in Disaster Risk Management

Enablers for Innovation	Description
Partnerships	Partnerships among several types of organizations across different sectors or multi-stakeholders enable access to a wide range of inputs and interactions necessary for effective innovative solutions to materialize, as opposed to working in silos. While partnerships, at times, can be complicated and difficult to navigate, it is also apparent that without critical partnerships, success in this area is not possible.
Policy Directives & Frameworks	Policy or promotion of innovation through national and sub-national frameworks and plans as laid out by governments is a critical enabler of success for innovations and its wider enabling environment. Government policy or promotion of innovation through national and sub-national frameworks and plans is often a necessary foundation for translation of support into actionable or tangible results.
Champions	Champions, in the form of either individuals or organizations, are effective enablers of innovation because they use a combination of their internal political capital, technical expertise, management savvy, seniority or reputation, and their experience and knowledge on how to drive forward tangible innovation solutions in their organizations, sectors or countries. In the innovation context, champions are those actors who may be drivers of change and risk-takers who are willing to undertake experimentation, and trial and error of new approaches to challenge the status quo.
Access to Funding	The ability to mobilize or access funding mechanisms dedicated to innovation, or DRM/ development funding sources that provide the flexibility or space to incorporate innovation into programming or activities is a key factor required for effective innovative solutions. Furthermore, there are often cases in which such resources are available for stimulating or supporting innovation; however, local actors in different sectors do not have opportunities or the means to access such sources of support.
Expertise & Capacities	The provision, development, and retention of vital expertise, skills, and capacities (either technical or human) to innovate when it comes to solutions or systems is critical. Additionally, the ability to oversee and manage the development of relevant solutions is imperative for the success of innovative initiatives. This is not possible without the provision of technical assistance and capacity-building support, particularly in the case of local actors working in DRM. Specifically, expertise and capacities necessary for nurturing innovations may take the form of dedicated facilities such as incubators, labs, or conclaves.

# Gaps and Challenges



For those trying to promote and implement innovation in the humanitarian and DRM contexts, there are numerous challenges that are practical or “tangible” in nature, as well as those that are more conceptual. Challenges range from a limited understanding of what innovation means in the DRM context (often due to the lack of tangible or documented examples), absence of connections with other stakeholders such as the private sector, an absence of formal spaces to innovate in the humanitarian ecosystem (often due to risk aversion from development partners or governments), and lack of systematic support (both financial and in the form of technical expertise) to translate ideas into tools or products. Furthermore, challenges include barriers that constrain individual innovators, and factors that inhibit organizations or agencies from the uptake and utilization of innovations. All of these challenges point to the finding that the overall ecosystem is not conducive to the systematic uptake and utilization of innovations for DRM.<sup>162</sup>

Based on findings from the mapping of innovation initiatives at the global, regional and country-levels from both primary and secondary sources, and the identification of challenges via the APP Innovations Forum for Safer Asia, this section summarizes the key gaps and challenges that may present barriers or inhibit innovative practices for DRM in Asia given the current landscape. The country analysis for selected countries and regional synthesis also highlight specific challenges for innovations in the DRM context.

1

### Lack of engagement in innovation among DRM actors maintain the “status quo”



Despite numerous efforts and initiatives promoting innovation in the broader humanitarian field, many traditional DRM actors (i.e., NDMOs, governments, and NGOs/CSOs) still have a limited interface with organizations working on innovation or are yet to integrate innovative approaches into their regular functions, operations, and programming.

Therefore, it is critical to address changes in mindsets. Development, DRM, and humanitarian organizations have yet to establish long term practices for investing in developing innovative solutions in a systematic or sustainable manner. Many operating processes within humanitarian organizations support established ways of doing business rather than providing flexibility or opportunities to move beyond the status quo.

2

### There is a need to bridge the gap between innovators and DRM actors



As mentioned in challenge 1, there is a gap between innovators and DRM mandated organizations and key stakeholders working on Disaster Management. As such, there is still a need to bridge the gap between DRM actors and those with the expertise and dedicated mandates for working on innovation, such as innovation labs, social enterprises, think tanks, and private sector organizations with experience nurturing and operationalizing innovative practices and products.

As discussed in the overall regional analysis, much of the work in innovation remains siloed, with a lack of collaboration or meaningful partnerships as one of the inhibiting factors. The lack of cohesive partnerships means that exchange and transfer of funding, expertise and capacities also remain limited.

Challenges associated with breaking away from working in silos include key stakeholders operating within distinct institutional mandates, policy frameworks, objectives, terminologies, methods, and funding mechanisms. More meaningful collaborations and partnerships between different stakeholders active in this space is required.

<sup>162</sup>Response Innovation Lab and Oxfam (2017). ‘State of innovation in Iraq.’ <https://media-openideo-rwd.oienline.com/attachments/3b42d2d3-fa98-4842-b57a-d35d047885cb.pdf>

3

### Absence of dedicated social innovation mechanisms for DRM in the region



There are many existing DRM innovation mechanisms (e.g., innovation challenges, conclaves, and platforms) at the global, regional, and national levels. However, there is no dedicated DRM mechanism that promotes “social innovation” specifically at the regional level. Furthermore, there is an absence of innovation mechanisms that are consistent with the localization approach, which provides dedicated support and resources to local actors working the frontline of emergency preparedness and response.

Moreover, the lack of quantity and quality of dedicated facilities such as incubators, labs, or conclaves for supporting and nurturing social innovation, especially in the DRM space, have limited the overall growth and operationalization of innovation in the region.

4

### Limited access to sustainable support and funding for innovations by local actors



Some commentators have discussed the need to address the “Black Hole of Humanitarian Innovation,”<sup>163</sup> which refers to the lack of information, guidance, established “ecosystem,” or stable funding for innovators. As such, promising innovations in the humanitarian field rarely prove sustainable in the current environment.

An enabling environment for supporting social innovations with relevant policies and frameworks is limited across the region. There are only a few instances of policies and frameworks in place that promote innovation for DRM-related initiatives. Engagement with governments on the development of innovations is critical in most countries; however, the bureaucratic hurdles in engaging with the government can significantly decelerate innovation processes. Therefore, striking a balance between establishing a conducive enabling environment for innovations, while ensuring new approaches or solutions are not constrained by bureaucratic hurdles, is imperative.

The findings from this study found that access to resources and funding for innovation is not a significant inhibiting factor across the region. However, there is scope for raising awareness regarding the existing funding mechanisms and enhancing the social innovation mechanisms themselves. Doing so will allow local actors to access and utilize funding and resources from national, regional, and global levels

5

### Current approaches for DRM innovations do not align with the localization agenda



Many of the current innovation platforms and initiatives are led and promoted by UN agencies, large development partners, and international NGOs. While they often provide access to necessary funding and expertise, this environment often limits opportunities for local actors to lead the innovation agenda and ensure that innovations are truly addressing the needs of affected communities and stakeholders. As such, there is a need to establish and maintain mechanisms and platforms that provide direct access, agency, and resources for local actors working in DRM, including local humanitarian organizations and government agencies at national and sub-national levels. Institutionalization of appropriate systems and mechanisms to facilitate key stages of innovation (i.e., identification, nurturing, promotion, and dissemination) is urgently needed. This will ensure access to knowledge, resources, and skills that are essential to nurturing innovation beyond the proof of concepts and ideas.

163 Currión, P. (2020). 'The Black Hole of Humanitarian Innovation. Journal of Humanitarian Affairs.' <https://www.manchesteropenhive.com/view/journals/jha/1/3/article-p42.xml>

### Local innovators lack a voice at the regional and global levels



Building upon challenge 5, which outlines the alignment challenge associated with the localization agenda, there also a lack of avenues that bridge innovators operating at the local to showcase their innovative approaches and solutions to a wider audience at the regional and global levels, especially at DRM and humanitarian platforms. Existing dedicated innovation challenges and platforms established by UN agencies, large development partners, and international NGOs do not provide opportunities to promote local innovations in a manner that is consistent with the localization agenda.

There is also a lack of established dissemination mechanisms for local champions to share and promote good practices and success stories in the region. Developing dedicated platforms that address this gap would enable learning and sharing of success stories to inspire a new generation of champions or “risk-takers.”

Broadly, the challenges identified point to the lack of any overall facilitator for coordinating the systematic identification, nurturing, and dissemination of innovations for DRM in the Asia region, particularly in a way that engages and provides access to local actors. As such, there is an opportunity for organizations and networks active in Asia, such as ADPC or APP, to assume such a facilitation role for supporting and enhancing innovations for DRM by working to strengthen the enabling environment for institutionalizing innovative approaches for locally-led disaster risk management actions across the region.



# Recommendations and Priority Areas



In line with the challenges and key gaps identified in this study, the recommendations outlined aim to serve as a guide for APP to assume a key role as a facilitator of innovations for DRM. The goal is to nurture innovative approaches for locally-led DRM actions and establish dissemination mechanisms for promoting innovative approaches and practices in the region.

To tackle challenges related to innovation in DRM, a transdisciplinary and holistic approach is necessary to integrate natural and social sciences with streams such as ICT, economics, engineering, legal and policy frameworks, etc. This approach will enable a shift from mono-disciplinary silos to transdisciplinary systems and break down the barriers for innovation, especially in the humanitarian context. There is also a need for enhancing the interface between scientific knowledge/innovation and decision-making authorities.

The recommendations outlined below are categorized across three priority areas for supporting innovations for DRM, namely Partnerships & Mechanisms, Capacity & Expertise Development, and Dissemination.

## Partnerships & Mechanisms



**Recommendation 1: Partner with relevant local organizations already engaged in innovation related work in respective APP and program countries**

Establishing partnerships with relevant local organizations already engaged in innovation-related work would leverage the existing local partnerships in APP countries by expanding to include “innovation actors.” These potential partners would include organizations who are aware of the local context and landscape for harnessing innovations, engaging innovators, and disseminating innovative products, tools, and approaches either at the pilot stage or as finalized products. Depending on the specific context in each country, the local partner for innovation may be social enterprises, academic institutions, government agencies, or dedicated innovation labs or platforms (e.g., in Nepal there are a number of organizations such as World Vision Innovation Lab and YI-Lab that serve as focal points for social innovation activities for DRM). APP’s linkages with private sector networks are a particular area of opportunity, as corporate and business sectors in many countries are progressive in the uptake of new approaches and innovations.



**Recommendation 2: Create an APP-led “Social Innovation DRM Grand Challenge” to serve as a mechanism for identification, nurturing, and scaling of DRM Innovations in Asia**

A “Social Innovation Grand Challenge” should be institutionalized within ADPC as part of the ongoing APP initiatives. The platform would have a focus on providing access and support to local actors and add specific value in this space by encouraging social innovations aligned with the localization agenda, and promoting cross-learning and exchange of ideas across different countries. The grand challenge would be open for APP member countries to access resources and guidance for identifying, nurturing, and disseminating innovative solutions for timely issues on disaster preparedness, response, and recovery at the ground level.

## Capacity & Expertise Development



**Recommendation 3: Form a network for DRM innovations that provides meaningful access to resources and expertise for local actors**

ADPC, as a regional organization, and APP, as a multi-stakeholder network of networks, are uniquely positioned to provide a space for local DRM actors to operate and meaningfully contribute in the innovation space. In line with recommendation 1, a network for DRM innovations embedded within APP would also serve as a platform for awareness-raising and sensitization on the value and approaches of innovation for DRM among local actors. Just as there are dedicated regional thematic working groups in the private sector, and inclusive approaches already active as part of APP, a dedicated network for DRM innovations that is consistent with the localization approach could help to address the gap between innovators and DRM actors. It would also provide an opportunity to address the limited access to sustainable support and funding for innovations by local actors.



**Recommendation 4: Facilitate “matchmaking” between local innovators, end-users, and DRM actors**

ADPC’s role as a regional organization and APP’s linkages across various sectors in different countries should be leveraged to facilitate “matchmaking” between end-users and DRM actors (e.g., NDMOs who require innovative solutions with local innovators who have ideas, tools, and products that can address pertinent challenges in different contexts). For example, in the case of the TechEmerge India Challenge, tech innovators with proven, ready to deploy solutions were matched with interested Indian Disaster Management Authorities. Although this was a technology-based innovation challenge, a similar approach could be adopted for social innovations by connecting end-users with innovators with DRM solutions. Furthermore, such “matchmaking” should encompass fostering partnerships between innovators, local DRM actors, and dedicated facilities such as incubators, labs, or conclaves for supporting and nurturing social innovation at the country level. The APP regional and national partnerships can therefore play a key facilitator role in coordination, collaboration, and engagement between these key players.

## Dissemination



**Recommendation 5: Capitalize on ADPC and APP’s roles as regional entities and partnerships to promote south-south learning and knowledge exchange**

APP’s South-South Learning and Knowledge Exchange hub can serve as a repository for good practices, lessons learned, and case studies for innovative approaches at the regional level, as well as a conduit for sharing local innovations from the Asia region at the global level. This should include the development and dissemination of knowledge products on innovative approaches and solutions sourced from local DRM actors active in the APP

networks and beyond. It could also include documentation of the identification processes, development of the proof of concept, nurturing processes up to adaptation, and wider use of innovations for DRM for dissemination across the region and beyond.



#### Recommendation 6: Outreach and promotion of innovations for DRM at relevant regional and global platforms

Recognizing the clear need for dedicated platforms to promote and discuss innovation for DRM at the regional level in Asia, ADPC, as the secretariat of APP, is well positioned to organize a dedicated series of innovation forums, webinars or dialogues (similar to the innovation forum for a Safer Asia organized in December 2018). Such forums would be critical for sharing good practices, lessons learned, and case studies for innovative approaches to a wide audience. The forums would provide opportunities for humanitarian organizations to further discuss and identify priority areas for DRM innovations. They would also serve as common platforms to share good practices and innovations identified and nurtured through the “Social Innovations Grand Challenge” (see recommendation 2). At the same time, outreach, and promotion of innovation for DRM must be integrated into the discourse at relevant regional and global platforms. Good practices and innovations identified and nurtured through the “Social Innovations Grand Challenge” can be promoted and shared at other similar platforms such as “Dubai 2020 Live Expo” and other similar innovation forums and grand challenge schemes. This will ensure that lessons learned are not limited to APP program countries, but also have wider use and adaptation at the regional and global levels.

The key gaps and challenges identified in this report and the subsequent recommendations inform the overall approach for APP to assume a key role as a facilitator of innovations for DRM in the region, as proposed in Figure 12. The overall intended impact of these interventions related.

to innovation under APP is to contribute to a goal of “institutionalized efficient and cost-effective innovative approaches for locally led Disaster Risk Management (DRM) actions” as illustrated in the figure below. The recommendations are linked to the key enablers for innovation as identified and explored in the study.

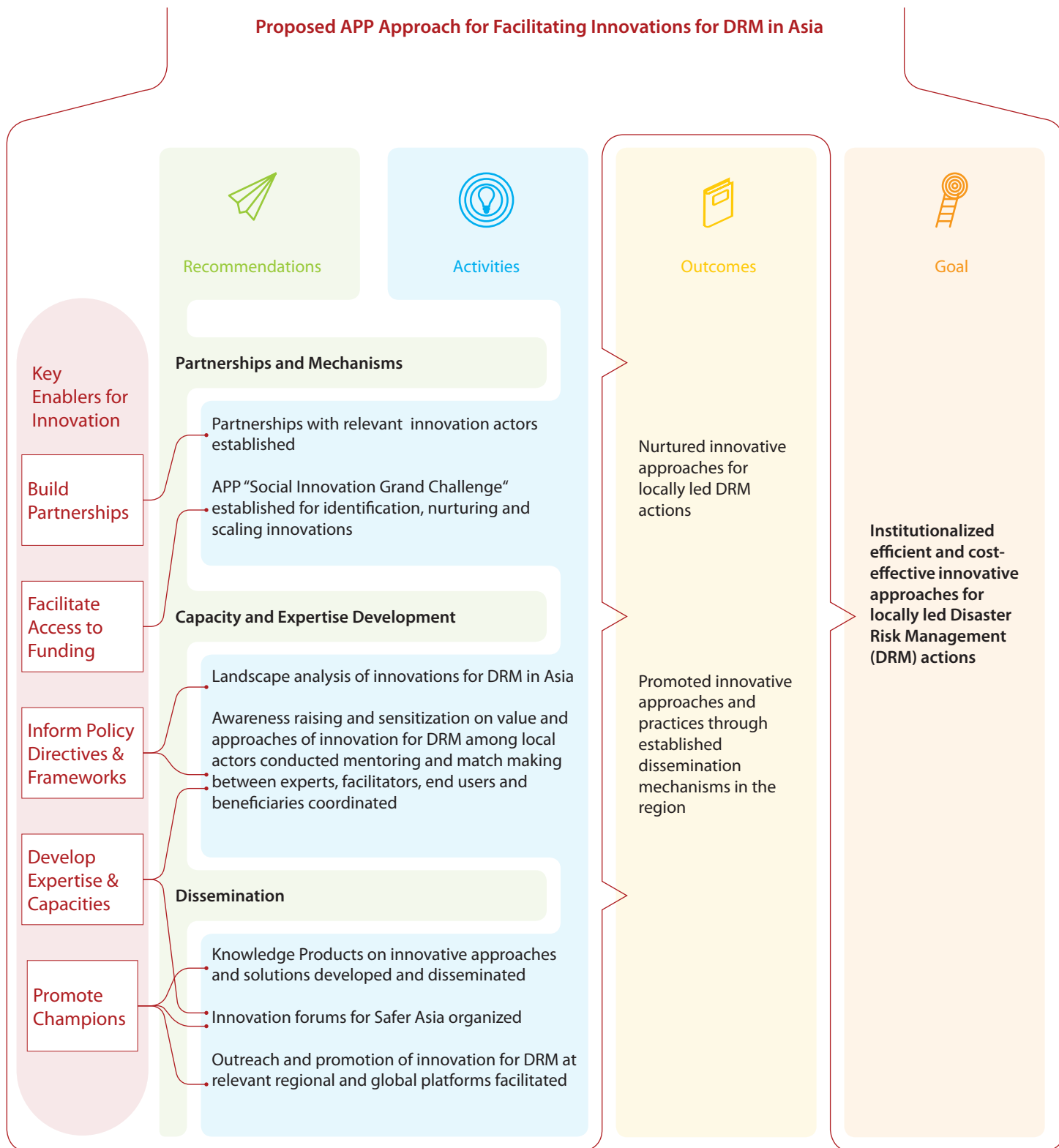
Based on the findings presented in this report, specific activities related to the specific priority areas of strengthening partnerships and mechanisms, capacity and expertise development, as well as dissemination of innovations and innovative practices can be developed. These activities should support establishing mechanisms for identification and nurturing of innovative approaches and practices, help contribute to the integration of innovative practices into strategy and practice for DRM actors, and strengthen dissemination mechanisms for promoting innovative approaches and practices in the region and beyond.

More broadly, in the medium term (i.e., over the next 2-3 years during the program period), these outputs would contribute to the intermediate outcomes of APP in nurturing innovative approaches for locally-led DRM actions and establishing dissemination mechanisms for promoting innovative approaches and practices in the region. In turn, these would work towards realizing the primary outcome (i.e., over the next 3-5 years) of institutionalized efficient and cost-effective innovative approaches for locally-led DRM actions.

Moreover, it is intended that the overall impact of the interventions (i.e., longer-term beyond the program period) would contribute to the overall goal of APP, specifically “safer and well-prepared communities through locally-led DRM actions, so that disaster impacts on at-risk communities of Asia will be reduced”.

Figure 12

**Proposed APP Approach for Facilitating Innovations for DRM in Asia**





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