Session Summaries

Plenaries, Working Sessions, and Spotlight Sessions

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Pillar 1: Resilient Investment and Recovery

Australian Government

UNDRR
UN Office for Disaster Risk Reduction

Plenary 1: Risk Informed Investments and Scaling Up Financing for Disaster Risk Reduction

Pillar 1: Resilient Investment and Recovery

Background and rationale

Despite the large impact and cost of disasters, the level of investment in prevention and risk reduction remains low compared to the level of investment in disaster response and recovery. This underscores the need for multi-sectoral risk-informed resilience-building and risk reduction activities. When done effectively, these cost-effective investments prevent the creation of new risks, reduce existing ones and minimise the impacts of natural hazards on hard-won development gains and sustainable development prospects.

Session objectives

- Set the scene for the conference, identifying why we need to invest more in disaster risk reduction (DRR) and good practices for doing so.
- Spread awareness of the rationale for increasing DRR investment, highlight the full costs and impacts of disasters, and analyse the shortcomings of our current reactive-focused approach and the resilience benefits of inclusive preventive approaches.
- Discuss interrelated interventions such as climate change adaptation (CCA) and health risk reduction, with a focus on multi-hazard risk-informed plans, budgets and investments.
- Discuss the ways in which private and public sector and development partners currently invest, challenges impeding transformations, and opportunities for more resilient and efficient investments to prevent and reduce risks.

Main points of discussion

Disasters have a major impact on communities and economies. In 2021, disasters cost the Asia–Pacific region USD 50 billion. Panellists provided specific examples from their country contexts, including:

- The enormous impact on priority sectors such as agriculture, fisheries and tourism in small island nation states, with Samoa as a specific example
- The Philippines noted that it is fourth in the world in terms of the human costs of disasters.

There has been increasing investment in DRR in the region, but more options and adaptive mechanisms are required. For example, over the last 10 years, the World Bank has shifted more investment into pre-disaster operations (from 50% in 2010 to 80% in 2020), but a significant shortfall remains in the resources required to effectively embed DRR in policy, planning and practice.

A strong evidence base is required to convince political leadership for greater investment in DRR. This includes providing evidence and studies that quantify disaster-related risk and the positive impact of investment. For example, studies demonstrate that a 3% per annum increase in investment in infrastructure can provide significant returns, and a return on investment of 400%. It is also important to consider not just the future benefits of resilient infrastructure but the immediate benefits to communities of improved infrastructure (such as schools and health centres) and reduced service disruptions. It will also be important to bring decision-makers together with those who hold evidence, knowledge and experience to allow this information to be shared.

DRR is an investment decision that requires political leadership and long-term planning that incorporates knowledge about the increasing frequency and severity of hazards and the evolution of vulnerability. This long-term perspective considers the importance of continuous investment in DRR to protect development investments and avoid downward spirals of investment in disaster response. Political leadership with a long-term perspective is critical. For example, in Japan there has been decades of investment in flood risk management.

DRR policies and plans must include all relevant stakeholders and have resources allocated for their implementation. Government stakeholders include ministries such as Finance, Planning and Infrastructure, emergency services and local government bodies; other stakeholders include banks, the private sector, the scientific community, and local and international NGOs. In some country contexts, resourcing includes a DRR fund within the national budget and with dedicated windows for prevention, risk mitigation and preparedness. These can be complemented by contingency funding with provisions for early action, response and recovery, such as those accessed through development banks such as World Bank or ADB lines of credit), as recently made available to Samoa and Tonga. Ministries of finance and planning were noted as critical in driving smarter investments that reduce rather than contribute to risk; this can be achieved by mainstreaming risk reduction in ministerial processes of funds allocation.

The private sector has an important role to play that should be supported by governments through a shared understanding of risks articulated in a national risk registry system. Whilst private sector organisations are beginning to consider disaster resilience as part of their core investments, their decision-making should be informed by consistent and trusted information. For example, banking institutions worldwide are not using agreed climate scenarios to inform decisions. Examples provided of private and public sector working together included building codes and associated guidelines, and cooperation between insurance companies and local governments. In Queensland, Australia, insurance companies and banks work with homeowners to incentivise cyclone-proofed building projects by offering cheaper insurance.

The panel affirmed that **disaster risk scientists need to be engaged** to provide knowledge on hazards, exposure and vulnerabilities as the basis for decision-making. Effective dissemination of accessible information, which considers how local context (e.g. settlement, infrastructure and access to social services), multi-dimensional poverty and social protection, disabilities, age and gender intersects with hazards and exposure, is vital.

Shared practices and examples from the discussion
- [Philippines Seismic Risk Reduction and Resilience Project](#) – to enhance the safety and seismic resilience of selected public buildings in metropolitan Manila, funded by the World Bank.
- Georisk Philippines – a multi-agency initiative that provides a central source of risk information on hazards, exposure and vulnerability assessment to help stakeholders plan to reduce risks from hazards.
- The G20 Principles for Quality Infrastructure Investment, adopted in July 2022, set out 'voluntary, non-binding principles that reflect [a] common strategic direction and aspiration for quality infrastructure investment' and aim to assist all countries to close their infrastructure gaps while maximising the positive economic, environmental, social and developmental impact of infrastructure.
- Samoan public finance management reforms accompanied the country's DRR policy to ensure that financing was integrated into specific DRR plans.
- Network For Greening the Financial System prepared common scenario analyses for all banks for their climate risk stress tests to improve the consistency of decisions related to climate risks. In order for disaster risk investments to be risk informed, accounting and disclosure of their cost should be

consistent. The Global Accounting Board and the International Sustainability Standards Board continue their work on this issue.

Recommendations and solutions proposed during the session

- Strengthen political leadership to increase disaster risk investments.

- Ensure DRR plans are in place, resourced and engage all relevant government departments at all levels. Plans should be inclusive and accessible, include DRR and CCA-informed investment decisions, strategies to deal with non-climate hazards (including geohazards and biohazards), resilient recovery and investment in green energy opportunities.

- Ensure climate and disaster resilience is fully integrated into budget and financial decision-making and allocate more financial resources to DRR.

- Develop policies and approaches to mobilise insurance company resources into DRR investments.

- Support micro, small and medium enterprises (MSMEs) with their accounting and disclosure of the costs of disaster risks.

- Strengthen cooperation between the public and private sector in particular financial institutions to embed multi-hazard risk analysis.

- Create and promote a range of responsive, long-term, innovative disaster financial instruments and mechanisms, including incentivised and innovative insurance options.

- Expand the use of concessional financial instruments in financing DRR investments.

Working Session 1: Public Investment to Enhance Climate and Disaster Resilience
Pillar 1: Resilient Investment and Recovery

Background and rationale

Public investments in DRR are both responsible and cost-effective. Despite the benefits of investing in DRR, funding is currently insufficient. A growing body of evidence underscores the need to shift funding upstream to focus on prevention and risk reduction. When done effectively, these investments address vulnerabilities and exposure, reduce loss of life and damage to assets, encourage greater private sector engagement, and have the potential to multiply socio-economic and environmental benefits from public investment.

Session objectives

- Articulate and build a strong rationale for the need for further public investment in DRR.
- Discuss barriers to public investment in DRR and strategies to overcome them, including strengthened DRR budget tracking and tagging, and long-term analysis of community risk and needs.
- Discuss key public financial sector tools that could accompany and support greater public sector investment in DRR.

Main points of discussion

Achieving and sustaining community resilience is important for everyone. The panel discussed the importance of **using public investments to reduce the risk exposure and vulnerability** of communities to disasters. However, given the limited funding available (particularly for least developed countries and/or small island developing states), it is important to ensure that a targeted allocations of resources takes place – informed by prevention and mitigation strategies and long-term planning that consider climate projections and future risks.

Governments are crucial in ensuring DRR is prioritised in public investments and in mobilising resources to invest in DRR. While urgent response needs come with each crisis, governments should continue to invest in prevention, CCA and DRR, embedding resilience into development planning and decision-making. It is important to take a long-term planning approach that considers the current and future risks being exacerbated by climate change. Coordination between levels of government in planning and investing in climate and disaster resilience remains critical, because coherent approaches are needed to build community buy-in and support. Local governments need to be supported to make long-term risk-informed decisions, backed by comprehensive information on risks, multidimensional vulnerabilities, past impacts and projections. Given that public investments are subject to political interests, it is also important that these are developed in a collaborative manner that creates buy-in and incentives for continued patronage beyond political terms.

It is important that new investments are designed to prevent the creation of new risks and mitigate current and future risks. Legacy infrastructure that exacerbates risks must be identified and appropriate measures determined to reduce risks and vulnerabilities – particularly in the context of climate change. Retrofitting of infrastructure will often be required to enable safe use, which is likely cheaper in the long run and politically easier to deliver.

Communities suffer the effects of climate change and inadequate risk reduction and prevention efforts. **Engagement of local communities – including youth, children and at-risk groups – is critical to ensure the**

suitability and sustainability of DRR and CCA public investments. They must be engaged in design and implementation, as well as in promoting DRR within their communities and supporting better investments.

Shared practices and examples from the discussion

- Townsville City Council in Queensland, Australia developed a [Coastal Hazard Adaptation Plan](#) that enabled it to assess the municipality's vulnerabilities to climate change impacts and disaster risks and to evaluate coastal adaptation options.

- Townsville City Council, as part of smart planning work to de-risk investments, worked with the building industry and technical experts to test products for suitability and revised building codes and standards. The council also revised plans for land use and investment plans for drainage to address stormwater inundation, while their registry of assets was updated to identify risks and plan for mitigatory steps.

- Bhutan has been working with the [Local Climate Adaptive Living Facility](#) under the United Nations Capital Development Fund to support local governments to invest in key DRR and CCA infrastructure, including irrigation channels, retaining walls and water supply schemes.

- The Philippines government is working to [relocate more than 20,000 families living in Manila's waterways](#) in order to restore Manila Bay and reduce the vulnerability of the city and the people living in these urban informal settlements.

Recommendations and solutions proposed during the session

- Increase allocation of funds for disaster prevention and risk reduction, by mobilizing ministries of finance and ensuring a multisectoral approach.

- Ensure a comprehensive approach to DRR and CCA that includes anticipatory actions in preparedness and response.

- Develop various strategies to expand the financing of DRR investments, share success stories to mobilise resources, and develop non-financial policies for DRR investments.

- Implement options such as insurance, response strategies and investments for recovery to manage residual risk and minimise impacts of materialised risks that could not be effectively mitigated.

- Provide consistent and trusted information through the accurate disclosure of climate change and disaster risks

- Involve communities in DRR processes, ensuring diverse representation. Mobilise all stakeholders, including young people, in understanding risks, preventing and mitigating them and developing anticipatory response mechanisms.

- Create a more purposeful link between DRR and CCA investments to optimise investment return and avoid duplication.

- Embed multi-hazard risk analysis in public and private investment decisions, recognising risks are interlinked and drawing on historical and prospective data.

Working Session 3: Resilience Building for MSMEs and the Private Sector
Pillar 1: Resilient Investment and Recovery

Background and rationale

Micro, small and medium enterprises (MSMEs) comprise more than 90% of businesses in the Asia-Pacific region. They create livelihoods, support well-being, and build social cohesion and value chains, supporting the socio-economic system. As such, MSMEs are crucial in reducing risk and building resilience to shocks and disasters and contributing to long-term resilient recovery. It is important to identify opportunities to strengthen their capacity to both prevent new risks and reduce their vulnerability to shocks, including disasters, and to prepare for, respond to and recover from disasters.

Session objectives

- Demonstrate how, by increasing the resilience of MSMEs and the private sector to disasters, we are also increasing the resilience of the community at large and protecting people's livelihoods.
- Share learnings from government support for MSMEs during the pandemic – what went well and lessons for the future in the broader context of disaster response.
- Share examples of how MSMEs have adapted, diversified, or shared resources and risks to recover – and sometimes prosper – during times of crisis.

Main points of discussion

COVID harmed many MSMEs in the Asia and Pacific region. The Asia Foundation's economic impact study found that many businesses had to close temporarily; tourism suffered a 95% reduction in income. Short-term measures to support MSMEs included deferring payments (such as taxes, social pension contributions, etc.), providing subsidies and helping with temporary staff layoffs, but longer-term measures were also required to build resilience through business coalitions or policy settings. The panel included a representative of Papua New Guinea's Business Coalition for Women, which advocates for fairer representation of women in leadership and decision-making. The coalition seeks to eliminate barriers such as violence against women, and supports opportunities such as recruitment and retainment of women and access to training in financial management and marketing.

COVID-19 exposed the vulnerability of many MSMEs and, in particular, the fact that **many businesses had inadequate risk reduction and prevention strategies**. They also had low capacity to bid on large contracts, meet industry standards or access credit that would enable them to build a financial buffer in the event of a crisis. Panellists emphasised the importance of weaving climate and disaster risk transfer, assessment and mitigation into their core business models. COVID-19 also exposed the interdependencies and reliance of larger businesses on supply chains maintained by MSMEs, underlining the need to ensure the resilience of MSMEs for continued prosperity.

Supporting MSMEs more effectively requires collaboration across stakeholders, including community, private sector and government actors. The example of insurance was raised, and the roles of the private sector in providing relevant and affordable insurance products, of government in providing stability and promoting insurance, and of MSMEs in building insurance into their risk reduction plans. There is also potential for networked solutions, whereby small enterprises link into medium enterprises or private sector organisations engage with micro enterprises through intermediaries.

Opportunities to strengthen MSME resilience include both localised and innovative approaches. A focus on domestic production and supply chains, coupled with relevant skills training and knowledge, maximises capacity and opportunities for local businesses. More broadly, the business world is changing, and there are opportunities to leverage corporate environmental, social and governance commitments as well as invest in emerging sustainable markets such as ecotourism, renewable energies, or sustainable farming (e.g. seaweed production). Supporting businesses to invest in sustainable and resilient products will allow them to get back on their feet quickly. Papua New Guinea and Timor-Leste representatives gave examples of individuals and businesses adapting quickly and learning new skills as a form of resilience; this community-based innovation needs to be recognised and supported through financial and fiscal incentives, business resilience support programs and social protection mechanisms.

Shared practices and examples from the discussion

- Papua New Guinea's Business Coalition for Women focuses on overcoming the challenges women face in the PNG workforce during the pandemic.
- Seaweed farming in the Philippines provides one example of MSMEs' adaptability and resilience enabling conservation in the face of climate change.

Recommendations and solutions proposed during the session

- Support MSMEs to incorporate risk transfer, mitigation and assessment practices into their business models.
- Establish mechanisms of support (such as fair insurance options) for MSMEs to manage residual risk and recover from shocks and disasters.
- Continue to build the business case for engaging women-owned and -led MSMEs in domestic production and supply chains that strengthen community resilience.
- Advocate for greater government and private sector support for MSMEs as crucial contributors to supply chains.

Working Session 8: Enabling Resilient and Accelerated Recovery
Pillar 1: Resilient Investment and Recovery

Background and rationale

Accelerated risk-informed recovery results in net benefits for both economies and the well-being of affected populations, and can result in more inclusive, sustainable and equitable recovery outcomes. Further, risk-informed recovery after disasters offers opportunities to reset development pathways towards more sustainable, inclusive and resilient futures.

Session objectives

Building on the results of discussions at the recent World Reconstruction Conference 5 and International Recovery Forum 2022, this session aimed to:

- Demystify recovery preparedness and support its uptake
- Share examples of good practices from across the region on preparedness for recovery, and provide insights and lessons from their implementation to promote scale-up of investments in pre-disaster recovery capacity
- Enhance understanding and exchange of knowledge about pioneering initiatives and current trends in disaster recovery financing to support the effective use of financial resources for recovery
- Share lessons and best practice in implementing accelerated recovery strategies.

Main points of discussion

The panel discussed the importance of DRR management – including the cycle from preparedness to response and recovery – being institutionalised and sustainable. In practical terms, this requires a permanent institution with legislation, policies, standards, regulations and budget that include early and extended recovery.

The session noted the **importance of collaboration across stakeholders**, including government, regulators, private sector and business associations. Private sector organisations such as insurance companies can provide innovative options for different segments of society to support recovery. Local governments also need to be supported to communicate science and climate data including evacuation procedures.

There was considerable **discussion of the issue of 'build back better'** and calls for a shift in thinking to focus on building better from the start and having a stronger focus on the future. The term was contested for its implied assumption that infrastructure and systems should always be built back, whereas a future-focused approach starts from what will be needed and may not require rebuilding damaged items. It was also emphasised that 'build back better' needs to include community resilience and systems, not just infrastructure.

The resources required for 'build back better' initiatives are considerable. In Tonga, for example, although policies exist, there are insufficient resources to ensure their implementation. Access to supply chains and low budget are preventing the country from effectively building back better following the earthquake and tsunami in early 2022. Additionally, the panel grappled with the question of how to balance speed of recovery with building back better; it was acknowledged that what can be achieved needed to be informed by science and data. International cooperation and support for decision-making will be important in balancing priorities and time frames.

Shared practices and examples from discussion

- The UN Pacific Insurance and Climate Adaptation Program equips governments and communities with tailored climate disaster risk financing strategies and solutions to help them to respond to the effects of climate change. In 2021, the program launched a micro-insurance product in Fiji that covered 1388 households; 32% are headed by women. Important accessibility features are being designed through work with the Pacific Disability Forum.

- Cards for Calamity is an information resource designed to help affected people navigate life after a disaster. Following the Black Summer fire season, floods, drought and COVID-19 pandemic, the Australian Red Cross purchased and distributed 6000 Cards for Calamity packs for their recovery teams across Australia.

Recommendations and solutions proposed during the session

- Pre-identify community networks and strengths that can be accessed for preparedness and recovery and mobilise them for pre-disaster recovery planning and preparedness.

- Develop 'build back better' plans, assign roles and responsibilities and – prior to disasters – identify financing mechanisms that will facilitate effective recovery.

- Identify ways to better integrate recovery and 'build back better' into existing mechanisms such as disaster risk financing.

Working Session 11: Adaptive Social Protection
Pillar 1: Resilient Investment and Recovery

Background and rationale

The concurrent impacts of COVID-19 and extreme weather events have demonstrated the critical importance of social protection systems in the face of multi-hazard shocks and crises. They have also highlighted the systemic nature of risk, through the disproportionate impact of shocks on poorer households, informal workers, migrants, women, children, the elderly and people living with disabilities. Adaptive social protection systems anticipate and prevent shocks from becoming crises. They prepare people to cope with shocks and help with recovery and resilience strengthening.

Session objectives

- Discuss COVID-19 social protection lessons, challenges and opportunities, with a focus on practical and feasible approaches for responding to the challenges of compounded crises and lessons for DRR, drawn from the strengths and weaknesses of social protection systems exposed during the pandemic.

- Highlight the benefits of risk-informed, inclusive, shock-responsive and adaptive social protection systems, including through links with disaster, climate risk, CCA, and gender equality and social inclusion programs and services.

- Discuss opportunities for countries to prepare for, cope with and adapt to future shocks and disaster events through the use of adaptive social protection tools.

Main points of discussion

The panel identified **social protection systems as the most powerful tool for reducing poverty over time and building community resilience to disasters**. Panellists particularly noted the need to ensure they are adaptive and flexible in anticipation of and during disasters. Such systems include conditional cash transfers, food vouchers, internet vouchers, skills development, and targeted labour programs.

The panel discussed the impacts of COVID-19, and concluded that those countries with regular and predictable social protection transfers were more resilient and recovered more quickly from lockdowns. Countries with existing social protection policies and protocols built on strong information systems, such as social registries or cadastres, were also seen as well positioned to expand and adapt approaches to suit changing needs.

An example from the Philippines focused on the strengths and weaknesses of its social protection program. The program was able to expand to reach vulnerable households during the COVID-19 pandemic; research has estimated that conditional cash transfers reduced the number of households living in poverty from 5 million to 2 million. However, the system also faced **challenges in verifying eligibility**; ideally, the social registry should be updated prior to disasters. The challenge of gathering consistent data for socioeconomic registries was also experienced in Indonesia, where coordination with the Ministry of Finance and Statistics Bureau was critical.

The panel discussed how **technology can support social protection programming**, focusing on the M-PAiSA platform developed by Vodafone in Fiji. This innovation enables people to register for social protection assistance from their mobile phone and receive funds directly into their mobile wallets. It also facilitates the easy transfer of funds from the diaspora to families. Technology was also noted as a potential means of preventing duplication of cash transfers and improving cost efficiencies. There are interesting options for using technology to facilitate insurance payments to customers based on automatic data triggers, such as the amount of rainfall in a geographic area.

Questions to the panel concerned approaches to developing **social protection systems that are inclusive, scalable to cope with rapidly emerging vulnerabilities (e.g. job/livelihood losses, etc.) and gender transformative**. In response, panellists cited examples such as accompanying cash transfers with gender and development sessions for families in the Philippines, and targeted assistance to the most vulnerable people in communities in Fiji. The Philippines has also modified its conditional cash transfer program to include street families and provide them with temporary accommodation so they can register for assistance. Local government and civil society are important enablers of access to the people most at risk.

Shared practices and examples from the discussion
- [The M-PAiSA platform](#), designed by Vodafone in Fiji, enables people to register for social protection assistance from their mobile phone and receive funds directly into their mobile wallets. It also facilitates the easy transfer of funds from diaspora to families.

Recommendations and solutions proposed during the session
- Regularly update socio-economic registries, vulnerability assessments and eligibility criteria that could be expanded or adapted in the event of a disaster and support the implementation of social protection schemes.
- Coordinate adaptive social protection programming with ministries of finance and statistics bureaus, update social economic registries regularly and design them for use before and after shocks.
- Link social development programmes, such as training and family support, with social protection initiatives to achieve co-benefits.
- Make social protection sustainable by providing innovative, adaptable and affordable insurance products in partnership with the private sector. Link anticipatory action with parametric insurance to resource early action protocols.
- Identify contingent financing streams that will enable individuals to quickly access financial support.

Pillar 2: Shock-Proofed Infrastructure and System

Plenary 2: Making Infrastructure and Systems Resilient
Pillar 2: Shock-Proofed Infrastructure and System

Background and rationale

Emerging economies in Asia and the Pacific are rapidly increasing their investment in physical infrastructure and associated systems. Resilient infrastructure is more than the protection of 'hard' infrastructure and is dependent on the interconnected and standalone systems and people that support it. While urbanisation and middle-class growth in emerging economies require advanced flexible infrastructure growth in urban communities, it is important to ensure that appropriate investments in quality infrastructure is made available to those in rural areas simultaneously.

Session objectives

- Promote resilient systems-based infrastructure initiatives – moving from asset-level to system-level risk management.
- Share opportunities and best practices around meaningful stakeholder engagement in resilient and inclusive infrastructure system design and management.
- Ensure coherence between climate action and sustainable development, particularly in incorporating disaster mitigation through risk-informed development approaches in addition to shock-proofing/adaptation.

Main points of discussion

Panellists spoke of the **role of the private sector** in the development and maintenance of disaster resilient infrastructure, and the need for public–private partnerships to ensure infrastructure capacities, standards, and functional complementarity are maintained. It was emphasised that national governments have the primary responsibility for DRR. Governments must ensure risk information is available and accessible, while the private sector brings investment. Risk information needs to be a public good, so that whether infrastructure is funded publicly or privately, it is developed and maintained with a common understanding of present and future risk. On the other hand, it was stated that the main role of the private sector in partnerships is to provide resources for DRR investments; hence, the financial system needs to be based on resilient risk rather than just financial risk. Private investment was said to be at the core of a whole-of-sector approach, with estimates that between now and 2040, 80% of USD 80 trillion of global investment in DRR will be private.

UNDRR is working with regulators to establish a global standard for investment in DRR through its [Principles for Resilient Infrastructure](#). However, in addition to regulation, there needs to be greater incentive for constructing resilient infrastructure; governments should create conducive investment environments. A combination of regulation and incentives is required to bring about public–private partnerships for not only new infrastructure but, crucially, its maintenance. For instance, the involvement of local engineering firms in infrastructure design, and of local contractors during both construction and maintenance, is essential to the development of local capacities and incorporation of local knowledge and experience and can yield significant flow-on economic benefits.

Panellists stated that the **need to work together** on DRR cannot be over-emphasised. It was observed that in federal countries, vertical links that foster cooperation are becoming stronger. They also emphasised the importance of **global consistency in objectives and targets** to strengthen social and infrastructure resilience, as per the Sendai Framework. While all countries need to embrace disaster-resilient infrastructure urgently, countries have vastly different capacities and resources to do so.

At the **national** level, it is essential to recognise that each country has different conditions and needs, and thus requires its own strategy for DRR with indicators aligned to its unique situation. Moreover, plans need to have resources linked to them, with policies reflected in national budgets. Maintenance is a huge challenge in this regard. With small budgets, prioritisation is crucial. At the **community** level, it is people who will need to be resilient and adapt. In small island states, people at national policy and decision-making levels come right down to the community response level during emergencies; there is little disconnect from the policy arena. In such cases there may be fewer resources, but more accountability.

The infrastructure that connects diverse communities has different meanings to different communities, and therefore offers different levels of resilience. Understanding community priorities is key – not only the services provided by infrastructure, but likewise the impacts of not having them. There is a crucial need to understand the local context. This requires a more people-centric approach to ensure plans are meaningful at the local level. For instance, there are no direct Samoan translations of 'resilience' or 'adaptation'. Community engagement is not just about applying outside concepts – it requires determining what disaster means to a community. When we listen to local people, the global level decision making becomes stronger and more grounded.

There is a need for integration of knowledge silos. Often green infrastructure and 'hard' infrastructure are approached separately; integrating them requires imagination and working with educational institutions to create accessible education. Panellists discussed how disaster-related data can be used more effectively for decision-making through integration of siloed sources, better modelling of future risk, systems thinking, and understanding that data can be both quantitative and qualitative. There tends to be more focus on measurement of facilities than the services they offer.

There is great potential for **forecasting and anticipatory action**. Those involved in DRR need to connect historical data about loss and damage with future climate risk analytics. But for this to happen, disaster and environmental agencies need to coordinate and collaborate. Further, 'Build back better' should be used as a basis for integrating analytics and prediction models to set more appropriate and future-ready benchmarks that help make infrastructure more resilient.

Shared practices and examples from the discussion

- Samoa has started to formulate inclusive village response plans, with people with disabilities, women and children having powerful input.

- In the Samoan experience, the promotion of greater local involvement in building infrastructure has met hurdles related to prohibitive procurement requirements. Multilateral donors are increasingly supportive of changes to procurement practices that promote and support more local involvement, and this must continue.

- The US Government's PREPARE initiative aims to support developing countries and communities in high-risk situations in their efforts to adapt to and manage the impacts of climate change.

- The Coalition for Disaster Resilient Infrastructure is a partnership of national governments, UN agencies and programs, multilateral development banks and financing mechanisms, the private sector, and knowledge institutions that aims to promote climate and disaster-resilient infrastructure systems.

Recommendations and solutions proposed during the session

- Governments should remain committed to upholding their primary responsibility in DRR at country level, as committed to under the Sendai Framework.

- Connect historical data about disaster impacts with climate risk analytics by strengthening the cooperation between disaster and environmental agencies

- Incentivise investment in resilient infrastructure and encourage greater emphasis on maintenance of infrastructure over its lifetime.
- Prioritise locally led initiatives that elevate community priorities to sub-national and national governments, and establish a clear link between local action and funding opportunities.
- Encourage consideration of social resilience in infrastructure planning.

Working Session 2: Building Resilience through Food Security
Pillar 2: Shock-Proofed Infrastructure and System

Background and rationale

Food security is a critical element of disaster resilience; it includes resilient agricultural practices, resilient supply chains and affordable food supplies. The systemic nature of risk and the mutually reinforcing pressures from conflict, climate change and the COVID-19 pandemic have led to the current 'hunger catastrophe'. Raising the profile of food security within the Sendai Framework activities is vital; the DRR hazard information profiles are a useful tool for doing so, because they highlight food and food security.

Session objectives

- Discuss the role of local leadership and engagement of civil society in improving food security.

- The importance of investing in social protection and safety nets for those affected by food affordability and insecurity, particularly women and girls, and marginalised groups and those in high-risk situations, including people with disabilities, children and displaced communities. FAO estimates that, if women had equal access to resources relative to men on a global scale, 'they could increase yields on their farms by 20–30%... raise total agricultural output in developing countries by up to 4%, which could in turn reduce the number of hungry people by around 15%'.

- Climate adaptation, DRR, anticipatory action and peace-building initiatives that will strengthen resilience and mitigate food-related risks. In addition, community-level discussion of how the accelerating impacts of climate change are increasing the risk of conflict, particularly via impacts on food systems, and how these dynamics are informing approaches to food security programming

- How to work with global partners to improve and maintain global supply chains, manage rising inflation costs and international collaboration on food production/availability.

Main points of discussion

In this session, there was strong recognition that **food security and systems are complex and can both exacerbate and mitigate a crisis**. Secure access to safe and nutritious food has underpinned civilisation. Farmers and fisherfolk play a critical albeit overlooked role in modern society, and without them all human endeavours are impossible. A secure food supply is the most potent weapon of peace.

Panellists highlighted the **connectedness of food systems across the world**, and the barriers to food system resilience, particularly the geopolitical vulnerability of global food supply chains. They identified external factors disrupting food systems, notably climate change, the COVID-19 pandemic, and conflict (which they called the 3Cs).

One panellist expressed a need for a localised model to project the effects of a 1.5°C increase in temperature on the growth of crops and consumption of food in the Pacific. Research is needed to determine if climate change will exacerbate **nutritional security issues in the Pacific** by reducing the yield and/or nutritional value of fruit and vegetables.

Domestic production is often heralded as the way to ensure food security. A key message from panellists was '**act local/go local**'. Movement restrictions caused by COVID-19 taught Timor-Leste a lesson about food resilience, such that the government is now acting on ways to reduce the country's dependence on imported rice. A panellist shared how the context created by COVID-19 triggered a revival of traditional food production systems in the Pacific.

The panellists posed the following interesting questions:

- Where do we put food resilience in the disaster map?
- How do we strike a balance between domestic/local and global/international solutions to food security?
- Should we take food from the hungry to feed the starving?

Shared practices and examples from the discussion
- One Health Approach – [Nature-based Coral Restoration Program](). Benefits of the program: reduction of storm surges, improved food security through sustainable harvesting.
- In Timor-Leste, the government appointed two conveners who are working closely with agencies to identify threats to food resilience and developing a food system pathway in response to the impacts of COVID-19.
- World Vision in Solomon Islands is working with the national government to support livelihoods in rural areas through climate-smart agriculture. This involves reducing wastage, encouraging communities to stop 'slash and burn' practices and adopt organic farming, implementing better food processing and preservation techniques, and promoting entrepreneurship.

Recommendations and solutions proposed during the session
- Work together to build resilience and partnerships for food security.
- Include non-structural systems and processes such as food security in DRR plans and strategies. Support research into the impact of a 1.5°C increase in global mean temperature and the consequent changes in weather patterns on food consumption and nutritional security.

Working Session 4: Financing Resilient Infrastructure
Pillar 2: Shock-Proofed Infrastructure and System

Background and rationale

In 2019, the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) estimated that to accomplish the SDGs, the additional investment required in infrastructure in the developing countries of Asia and the Pacific would be USD 1.5 trillion per year, equivalent to 5% of their combined gross domestic product in 2018. This investment required in resilient infrastructure is immense, and public sector resources are limited. In addition, private investments tend to flow to locations that offer comparative advantages, such as low labour costs, access to export markets, critical infrastructure and stability. Investment opportunities for short-term profits continue to outweigh concerns about sustainability. It is critical that investment decisions consider the level of risk exposure in those locations and how to ensure that infrastructure can continue to meet human needs after disasters.

Session objectives

- Discuss options to finance the integration of resilience in infrastructure projects and engage the private sector and other relevant stakeholders.
- Promote the long-term financial benefits of resilient infrastructure.
- Promote mechanisms for ensuring investments are risk-informed and de-risked.
- Describe best practices in ensuring financing along the life expectancy of infrastructure.

Main points of discussion

Panellists emphasised that in the face of increasing frequency and intensity of prevailing and future climate-induced disasters, **climate finance and disaster financing have to be significantly scaled up and made accessible to developing countries** so that necessary climate action can occur. The cost of no action on climate-resilient infrastructure – or even **the cost of delayed action** – is immense. The costs of climate change-induced harm are estimated to exceed the fiscal capacities of many countries, increasing the impetus to invest now in resilience. In this context, it was stated that infrastructure investment projects must incorporate multi-hazard climate risk investment assessments, and that investment priorities should be determined according to them.

The panel discussed the case of Tonga, which has few fiscal tools to manage inflation; consequently, in the current high-inflation environment, the Tongan government struggles to operate and maintain its infrastructure. This problem has been exacerbated in recent years by supply chain disruptions and closed borders. To cope, the government has been zero-rating (tax-exempting) construction materials and subsidising fuel to benefit business, despite the budget implications, and offers concessional rates for infrastructure development to businesses such as fisheries and tourism. In addition, Tonga received help from other countries to access resources from the Green Climate Fund, after initially finding it difficult to navigate its requirements.

Panellists reflected on Pakistan's National Disaster and Risk Management Fund (NDRMF) which prioritises and finances resilient infrastructure. It acts as a central pool for donors, both nationally and internationally, to contribute towards DRR grants and investment. **Pooled funding for government and private contributions on resilient infrastructure** was a common approach in panellists' countries. Regulation to that effect allows for a more proactive funding environment, reduces losses, and makes finance available after a disaster. The panellists also addressed problems associated with pooled funding. These included persuading stakeholders to collect funds, determining the amounts to be collected when the cost of disasters is unknown in advance,

and the rapid use of funds after the disaster. They also stated that governments should establish budget lines for disasters, create appropriate financial instruments, give incentives for resilient projects, and strengthen cooperation between the public, private and financial sectors.

The discussion concentrated on the insurance and banking sectors; both, it was said, are keenly focused on DRR, though the market incentives for each sector differ across the disaster cycle. The insurance sector is, unsurprisingly, focused on the 'pre-incident' stages of a disaster cycle, including risk assessment, preparedness, mitigation, and disaster prediction and early warning systems. In contrast, the finance sector focuses on post-incident stages, including damage assessment, disaster response, recovery and rehabilitation, and reconstruction, which are more conducive to loans, safety-net finance, and reconstruction finance. **Integration of the insurance and banking sectors, however, is vital to a comprehensive approach to DRR and resilience.** The inventive for integration lies in the win-win-win model for clients, the insurance sector and the banking sector. It was also stated that it would be beneficial to integrate disaster risk ratings into the financial due diligence of financial institutions in order to increase DRR investments. Life insurance companies have to hold assets in their balance sheets that correspond to their long-term responsibilities, so play an important role in financing resilient infrastructure investments.

Shared practices and examples from the discussion

- Pakistan: National Disaster Risk Management Fund
- Indonesia: Disaster Risk Finance and Insurance Project
- Tonga: Joint National Action Plan 2 on Climate Change and Disaster Risk Management
- Japan: Development Bank of Japan – 'Total solution for DRR and resilience'

Recommendations and solutions proposed during the session

- Integrate multi-hazard climate risk assessments into preparing infrastructure investment project plans and determine investment priorities accordingly. Governments should establish budget lines for disasters, design appropriate financial instruments, provide financial incentives for resilient projects, and strengthen cooperation between the public and private sectors and financial markets.

- Integrate disaster risk ratings into the due diligence of financial institutions to increase DRR investments.

- Invest in resilient infrastructure rather than prohibitively expensive delayed action.

- Integrate insurance and banking sector investment activity across stages of a disaster cycle for mutual benefit.

- Recognise the context-specific fiscal challenges of small island states, and work alongside their governments to overcome these challenges.

Working Session 5: Resilient Systems, Services and Infrastructure
Pillar 2: Shock-Proofed Infrastructure and System

Background and rationale

Fostering meaningful partnerships between governments, infrastructure operators and key community stakeholders is critical to ensuring that governance mechanisms are effectively designed, implemented and complied with. Sound governance of infrastructure over its life cycle, along with fostering the active engagement, involvement and participation of end users, are important mechanisms to limit the severity of loss or damage during a disaster. They are also critical to harness the knowledge and experience of all stakeholders, including the community themselves.

Session objectives

- Discuss inclusive and integrated governance and policy mechanisms for making infrastructure resilient and identify pathways and opportunities for improvement.

- Examine what regulatory and policy changes (e.g. building codes/land use) would bring the most dividends to communities and ensure the resilience of infrastructure in the face of emergent threats.

- Discuss how to raise the awareness, understanding and engagement of a range of stakeholders (for compliance).

- Share best practice and encourage improved data collection in relation to the Sendai Framework's Target D on reducing damage to infrastructure and ensuring continuity of basic services.

Main points of discussion

A recurring theme throughout this session was the **'fallibility of human memory' of disasters**, and the difficulty of sustaining commitment to resilient infrastructure development across the ebbs and flows of the disaster cycle. This tendency was similarly described as 'cognitive distance' or 'short memory'.

Panellists contrasted the 'excitement about doing something' generated in mass media and politics in the immediate aftermath of disaster with perceived 'waste' in spending on DRR in calmer times. This sparked discussion on the difficulty of fostering a culture of prevention.

The session raised the point that **oral histories are rarely given due credence in planning processes and decision-making**. Traditional knowledge can be quite localised, offering conditions-specific insight that national or similarly large-scale building codes may overlook. The discussion called for greater focus on an enabling framework for prioritisation of objectives, rather than prescribed roles. This was seen to be a possible means to break out of traditional silos – such as the dominance of engineers and scientists in preparedness and prevention roles – and to enable incorporation of additional voices in planning processes.

On inclusivity, panellists discussed **opportunities to engage non-traditional stakeholders** – such as unions and business chambers – to identify new and alternative pathways and opportunities to make infrastructure and systems more resilient. In addition to the missed opportunity to capitalise on existing knowledge, dismissal of traditional and/or local knowledge can create tensions in the community when valid inputs are not heard. It was said that leaders need to make decisions with careful regard for local knowledge and inclusivity.

Questioners sought the panel's advice on leading a community in an inclusive way, developing improved normative frameworks for protection of at-risk communities, and maintaining sustained commitment to resilient infrastructure development.

Shared practices and examples from the discussion

- Experience from the Canterbury earthquake in New Zealand was shared. Prior to the earthquake, traditional knowledge had held that certain areas were not appropriate for building (e.g. the risk of liquefaction), yet this was not incorporated into planning at a city or regional level. In the years that followed, however, better decisions were made with wide community engagement. Building codes were developed more locally, and are now updated annually.
- The Government of Japan has mandated annual reporting to the legislature on DRR, and has institutionalised a process of review, learning and revision to constantly improve DRR practice.
- ASEAN highlighted institutionalisation as a guiding principle of its work. It implements multi-layered, cross-sectoral governance approaches that enable member states to develop and strengthen their disaster management plans.

Recommendations and solutions proposed during the session

- Commit to resilience in long-term infrastructure planning and design.
- Develop normative frameworks that both support and incentivise resilient infrastructure.
- Consult widely within communities, including with non-traditional stakeholders, to ensure the integration of different needs in the planning of infrastructure and services.
- Understand local needs in their local contexts. Building codes and regulations should include sufficient flexibility to adapt to local conditions.
- Focus on shared objectives and engagement between different stakeholders in order to break down knowledge silos.

Working Session 6: Nature-Based Solutions: Building Resilience in Blue and Green
Pillar 2: Shock-Proofed Infrastructure and System

Background and rationale

Coastal ecosystems act as a buffer against hazards such as storm surges, strong winds and cyclones – saving lives and limiting loss and damage to critical infrastructure and basic services. Forests can stabilise slopes and reduce the likelihood and severity of landsides and erosion. Healthy coral reefs and mangroves can reduce wave energy during storms. Nature-based solutions (NbS) can also mitigate climate change, because forests and the ocean absorb carbon. Moreover, in many contexts the most at-risk communities rely on ecosystems for their livelihoods and resilience, including healthy habitats for fisheries. Conversely, degraded environments are a leading cofactor of disruptive impacts of natural hazards. The absence of NbS hinders recovery efforts and livelihood regeneration in the aftermath of a disaster.

Session objectives

- Increase awareness of the central role of NbS in promoting DRR and how we can strengthen a coherent harmonisation of international frameworks under the 2030 Agenda for Sustainable Development and the Sendai Framework.
- Demonstrate examples of NbS practices from the Asia-Pacific as a coherent means of DRR and climate resilience and pathways to mainstream and upscale NbS to respond to disasters and climate hazards.
- Identify ways to capitalise on the growing evidence base for strengthening the integration of NbS into DRR strategies and national development plans.
- Discuss the national governance and policy frameworks needed to mainstream NbS within local, national and global planning, as well as achieve the goals of the Sendai Framework, the 2030 Agenda for Sustainable Development and the Paris Agreement.

Main points of discussion

Panellists first acknowledged that NbS have been implemented in **First Nations management of lands and waters** over thousands of years.

Nature-based solutions **are typically spoken about from a biodiversity perspective**. Forests and oceans, for instance, are also clearly central to decarbonisation. 'Blue carbon' – carbon stored in coastal and marine ecosystems – is increasingly understood as being critical for maintaining biodiversity and sequestering carbon to support climate change mitigation. A more holistic view that also considers carbon release is important to a thorough understanding of the DRR and resilience opportunities of NbS.

Nature-based solutions **cover a wide spectrum, taking many forms and involving many disciplinary practices**, including ecological conservation, restoration, rehabilitation and biomimicry. NbS shouldn't be thought of as the solution to all our problems. Instead, the word 'solution' in NbS must be understood in terms of harnessing ecosystem services. NbS should be embedded in resilience thinking to enhance approaches to the many challenges of climate-based disasters.

Nature underpins ecosystem services in strengthening resilience for the urban poor. The session focused on the **sponge city concept** – a new philosophy for urban infrastructure design. It involves building the resilience of cities by tackling multiple interrelated water challenges, including stormwater harvesting and reuse, with site-specific ecological spatial planning. Some attempts at replicating the concept focus solely on the (positive) image of building a sponge city, ignoring some crucial design aspects, including construction quality and local, site-specific design. Site specificity and the need to design for local conditions was not exclusive to the sponge city example, but was raised across the session.

In the Thailand experience, national adaptation plans that include NbS are consistent with plans at other levels of governance, such as 'eco-based plans' that focus on biodiversity. Appropriate contextual design goes beyond the physical environment to consider what the plans serve and who they belong to. For instance, landscaping professionals working alongside engineers can slowly change design norms.

Sustainable development plans, such as Fiji's *Tikina Nacula*, are village specific, with each village's committee applying sustainable practices to natural resource management. Such examples offer local contextualisation, but can (and must) be integrated with larger frameworks, including the SDGs, the Sendai Framework and the Paris Agreement.

Shared practices and examples from the discussion
- *Tikina Nacula* Sustainable Development Plan.
- The sponge city concept.
- Thailand's National Adaptation Plan.

Recommendations and solutions proposed during the session
- Embed evidence-based and feasible NbS in efforts to promote and strengthen resilience.
- View NbS holistically, including their positives and negatives, and for their climate change mitigation potential beyond an ecosystem focus.
- Value the benefits of NbS for integrated urban flood management.
- Design NbS with a strong emphasis on local context.
- Harness ecosystem services for strengthened resilience, with particular benefit in urban areas.

Pillar 3: Resilient Communities

Plenary 3: Community Knows Best: Reducing Disaster Risk for All
Pillar 3: Resilient Communities

Background and rationale

Reducing disaster risk and building resilience in communities is an ongoing process, not a fixed goal. Communities need to adapt continually as the hazards they face change over time. Inclusion of diverse voices, and the adoption of localised approaches, are two key principles for reducing disaster risk for all.

Session objectives

- Share best practices and case studies in which evidence, planning, decision-making and communication are integrated to build community resilience in an inclusive, collaborative, accessible and participatory way.

- Highlight the importance of including diverse voices across DRR, preparedness and response, recovery and resilience building.

- Demonstrate how localisation strategies have been used to promote inclusion and strengthen community resilience.

Main points of discussion

The panel emphasised the need to **increase recognition of the disproportionate impacts of disasters on people at most risk**, as well as the invaluable **contribution that inclusive DRR leadership and decision-making can make to reducing disaster risk**. Women and children are 14 times more likely to die during a disaster, yet are discriminated against during disaster response. The underrepresentation of women in power was discussed as a key barrier to implementing inclusive responses. Moreover, people living with a disability and socially marginalised groups are often left behind, or responses do not meet their distinctive needs. Speakers emphasised that no one understands the risks better than those who experience them, and everyone benefits when the diversity of knowledge, skills and experiences is utilised to inform resilience approaches.

The session focused on **the importance of integrating local, traditional and Indigenous knowledge into DRR to complement science-based approaches**. The discussion emphasised how preparedness is strengthened when all facets of knowledge are integrated, and when local governments and communities are involved in planning and decision-making. Communities recover faster when local knowledge is incorporated into practice.

Aligning DRR to human rights frameworks was a key discussion point throughout the session. For example, the panellists agreed that applying a human rights-based approach can lead to better understandings of the distinctive risks faced by individuals and enable more inclusive DRR planning and approaches.

Bringing youth into the conversation on DRR was emphasised strongly throughout the discussion. Speakers noted that 'youth can often see simple solutions where adults see complicated problems'; empowering the next generation of DRR leaders was a key point. They also referred to youth movements' current impact on shifting climate policy/action.

The issue of funding was discussed. Speakers emphasised the need to increase the flexibility of funding, while stating that DRR funding is currently short-sighted and seen as a cost, not an investment. For example, funding will likely be aligned with a political term rather than with the objective of facilitating long-term DRR objectives, and decisions are often made with an eye on polls and elections. Additionally, for every USD 100

spent on aid during the last decade, only USD 0.50 went towards DRR.[1] Speakers emphasised that capital markets are no longer accounting for disaster risk which have financial impacts affecting communities.

Speakers noted **the importance of holding big corporations (as well as state actors) to account**, stating that many are directly or indirectly contributing to the climate crisis. Addressing the root cause of the situation is just as important as prevention and recovery planning.

Speakers highlighted the importance of **educating communities on DRR and preparedness**, including incorporating DRR into school curriculums and educating households to prepare for disasters.

Shared practices and examples from the discussion

- Application of Indigenous knowledge during the 2019 Australian bushfires was raised as a key example of best practice.
- In Indonesia, traditional songs and poems passed down through generations provide knowledge on responding to disasters.
- The UN's Youth Strategy was raised as an example of a way to increase youth participation and engagement.
- The IFRC's youth engagement activities and commitments were raised as an example of best practice in elevating the voices of young people in humanitarian decision-making.

Recommendations and solutions proposed during the session

- Engage women, children, youth, people with disabilities, LGBTQI+ people and at-risk or marginalised groups in DRR planning and programming
- Develop a gender action plan for the Sendai Framework that is ambitious and coherent with similar plans developed for other frameworks.
- Place greater emphasis on the guiding principles of the Sendai Framework, including promoting and protecting human rights, integrating a gender, age, disability and cultural perspective in all policies and practices, and promoting women and youth leadership in all DRR efforts.
- Learn the lessons from the pandemic and other recent major disasters, particularly those highlighting discrimination against specific communities, including the LGBTQI+ community.
- Examine current government DRR processes and identify opportunities for improvement (placing a social inclusion officer in the NDMO, having a disability and inclusion plan for every country, setting quotas for inclusion, forming national committees to help verify progress).
- Enable platforms for youth engagement in the disaster preparedness and recovery space.
- Increase collaboration in DRR planning across the community, civil society, government, public and private sectors.
- Integrate indigenous knowledge into DRR policy.
- Change normative structures and behaviours: funding needs to be risk -informed over the long term, while actions should be guided by human rights frameworks and law to ensure more inclusive policies, approaches and initiatives.

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[1] UNDRR, *International Cooperation in Disaster Risk Reduction* (2021).

Working Session 7: Making Cities Resilient: Harnessing the Power of Collective Action
Pillar 3: Resilient Communities

Background and rationale

Urbanisation continues to be a defining trend in the Asia-Pacific region. In 2019, an estimated 2.3 billion people were living in cities in the Asia-Pacific, and their number is projected to rise to 3.5 billion by 2050. As countries have urbanised, so too have disasters. With climate change continuing to alter the frequency and intensity of natural hazards, more cities and people will be exposed to hazards, amplifying existing vulnerabilities. As such, the success of the SDGs and the Sendai Framework will depend increasingly on what is being done to manage risks and build resilience in urban areas.

Session objectives

- Share practices and lessons from cities that have reduced their disaster risk, in particular where this has been achieved through collaboration between local municipalities and communities.

- Enhance understandings of the interactions between risk, vulnerability and exposure, and the role of decision-makers in implementing activities that reduce risks in urban contexts.

- Encourage city-to-city and multi-level sharing of good, replicable practices around local DRR planning, financing and implementation in line with Targets A, B, C, D, and E of the Sendai Framework.

- Promote the Making Cities Resilient 2030 (MCR2030) initiative as a platform for cities and partners to collaborate on building local resilience.

Main points of discussion

Cities are increasingly becoming more vulnerable to disasters – including earthquakes, meteorological events and human-induced disasters. As urban areas grow in population, greater profiling of risks and vulnerability is required. However, this information should also be used to inform changes to policies, codes and standards, while shaping response plans and coordination structures and entities.

The panel discussed how greater rural poverty, rising sea levels, growing inequalities and climate change-induced risks are driving urbanisation – which in turn is resulting in more vulnerability among low-income earners. While most of the poor in urban areas have little education and lack professional qualifications, they nonetheless make an important contribution to municipal and national economies.

Slow-onset climate change-driven disasters are often abstract but are the most likely to create significant problems for urban cities, particularly the most vulnerable. While such long-term issues may not be top of mind for the urban poor, who are focused on day-to-day survival, it is important to find ways to create engagement with DRR concepts. Often the best way to do this is by linking climate change impact with day-to-day activities (such as water and sanitation).

DRR planning and practical application needs to ensure that:

- Solutions are affordable, aspirational, user friendly and easily accessible

- Solutions are informed by technological developments, but also supported by traditional knowledge and wisdom, and affected communities are engaged through participatory approaches

- Plans are co-created with city and local government structures for sustainability

- An intersectional approach to vulnerability is taken

- There is transparency in approaches, decisions and activities, for example, transparency from national institutions on the policies implemented and budget allocated.

- Multi-layered engagement takes place to create greater buy-in.

Shared practices and examples from the discussion

- Incheon city has updated policies and introduced more integrated practices to become a [safe and smart city](#) that is better prepared to manage risks to communities through climate change and disasters. It has a tailored disaster emergency forum to respond to multiple crises. The city tracks global environmental, economic and social trends that may have local implications (looking outside), while supporting zones within the city to formulate tailored plans, relying on technology and data-driven approaches to plan and respond (looking inwards).

- Bangladesh is exploring financing measures that enable communities to receive grants or loans to upgrade their buildings to become more resilient to risks and align with changing building codes.

- The Mahila Housing Trust is supporting communities living in low-income communities to [adapt to climate change-induced risks, including heat stress and flooding](#) in India (and intends to replicate its work in Bangladesh and Nepal).

Recommendations and solutions proposed during the session

- Prioritise inclusive, people-centred and gender-transformative approaches to reduce risks and vulnerabilities, with preparedness planning processes anchored in local government structures.

- Pursue an inclusive and participatory approach to DRR and resilience through:
  - Targeted, localised and simplified communication strategies for behaviour change that provide relevant information and create incentives for people to seek solutions
  - Piloting and community validation of technical solutions
  - Designing and incubating financial products
  - Creation of strong institutional partnerships that support the poor to make investments.

- Establish stronger networks among Asia-Pacific cities and townships in order to continue serious, political, economic and development discussions about ways to meet the challenges of increasing DRR needs and climate risks.

Working Session 9: Early Warning Early Action
Pillar 3: Resilient Communities

Background and rationale

Disasters end lives, damage infrastructure and disrupt livelihoods. However, when governments, civil society organisations (CSOs), communities and households have access to robust and timely information they can take actions to prevent or reduce losses. For this reason, and aligned to Target G of the Sendai Framework for Disaster Risk Reduction 2015-2030, the UN Secretary-General has launched a call to ensure that early warning systems cover everyone within the next five years.

Session objectives

- Identify varying country needs and key components to strengthen multi-hazard early warning and action governance mechanisms and capabilities.
- Discuss approaches to assess effectiveness of Early Warning Early Action value chains, identify efficient solutions for decision-makers at all levels, and highlight the importance of considering those most marginalised and exposed.
- Demonstrate the value of gender-transformative, inclusive and accessible early action investments to empower communities with access to, and understanding of, warning information that they can put into practice.
- Outline how countries could improve preparedness and response components of early warning systems, especially in anticipation of a disaster, including accessing financial support. This would include consideration of anticipatory action as a tool to reduce damage and loss.

Main points of discussion

The panel noted the UN Secretary-General's call to ensure that all communities have access to early warning systems by 2027. Currently, only 50% of communities globally have access to effective early warning systems that combine predictions with preapproved action plans and financing so communities can act in advance of hazards.

Panellists discussed the importance of three key components to enable effective early warning and action for all communities: an assessment of capacity across countries and contexts, a collaborative approach with all stakeholders involved in planning, and a resourced plan. As a starting point, it was suggested that countries assess the maturity of their meteorological and early warning systems to identify the steps to be taken to develop or strengthen approaches.

The working session highlighted the **importance of scientific data to support decision-making** for early warning and action. In Vietnam, data has been used to prepare a disaster zoning map that can support a forecasting and warning system; this allows for the development of action plans for specific hazards. The effectiveness of this early warning and action system was highlighted when the authorities compared the impact of salt intrusion and drought in 2015–16 with the same hazard in 2020 after the implementation of the early warning system. Early action in 2020 included providing funds to communities, front-line working groups supporting local government, building temporary dams, storing drinking water and managing irrigation. As a result, communities sustained less damage from the 2020 hazard, despite it being larger in scale and scope than the 2015 event.

Panellists emphasised the **importance of community engagement and the role of active disaster management committees**. In Bangladesh, community committees have promoted understanding of risks and enacted early action protocols. Throughout the discussion, panellists emphasised the importance of **gender-transformative and disability-inclusive multi-hazard early warning.** This requires recognising and supporting the critical roles that women play by equipping them with information and technology. For example, women in Fiji were given simple handsets to give and receive weather information and connected to the regional forecasting centre. Once equipped with information, women use it to act. In Vanuatu, prior to cyclones, women talked about keeping firewood dry to support economic recovery, preparing mosquito nets or moving livestock.

Shared practices and examples from the discussion

- The Vietnam Disaster Monitoring System (VNDMS), a forecasting and warning system, maintains the App-VNDMS smartphone application, which enables all users to receive early warning.
- Six Pacific countries sent young women to the weather office in Fiji to learn about early warning. TC Yasa appeared shortly afterwards, and the women used their knowledge to help their communities prepare for it.

Recommendations and solutions proposed during the session

- Support communities and local civil society to have access to real-time and reliable data.
- Integrate local, traditional and scientific knowledge into the development of early warning and early action systems.
- Develop action plans specific to hazards and contexts.
- Map out the capacities of meteorological and government structures and systems to enable development of a plan to support early warning systems.
- Equip women and youth with information and technology, including linking them into weather forecasting centres.
- Adapt laws and policies to promote women's participation and leadership.
- Undertake cost–benefit analyses of early action's contribution to long-term benefits.

Working Session 10: Scaling Up Scaling Out and Scaling Deep: Innovations in Disaster Risk Management

Pillar 3: Resilient Communities

Background and rationale

With the rising incidence of disasters, the need for the increased use of innovation and new technology, tools, learning platforms and approaches in the DRR space has never been greater. However, there remains a tremendous gap between science and technology and policymaking, which is a fundamental obstacle to scaling up innovation. At the same time, insufficient investment and poor availability and prioritisation of resources can reduce a country's ability to try new things. While increased public investments are needed, partnerships across government and scientific bodies, private sector, academia and civil society organisations can help to ensure the approaches adopted are effective, sustainable and inclusive of all.

Session objectives

- Showcase stories of successful application of practical, inclusive and innovative DRR technologies, approaches and practices from across the Asia-Pacific region.
- Identify the barriers to innovation in DRR from the perspective of external innovators such as technology companies and universities.
- Identify opportunities for stakeholders from the public and private sectors, scientific bodies, academia and civil society to work together to develop and apply DRR innovations.

Main points of discussion

The session concentrated on the concept of **innovation**. The panel established that innovation can be defined in many ways, but put simply, it is a way of doing things better.

The session raised the point that obtaining funding in the humanitarian sector can be challenging. Similarly, funding DRR is hard because the objective is to prevent something occurring, as opposed to producing something tangible. This presents a difficult donor-facing messaging environment, particularly when it comes to innovation. Countering this problem requires building evidence through research, which in turn helps to **build the case for innovation funding**.

Innovation is not just about products; it includes tools, ideas, processes, services, methods and systems. The key challenge of innovation lies in how to deliver it to end users. In the case of DRR, this extends to measuring impact on people's lives. For academia, the challenge might be bringing research outcomes to general audiences in an approachable way.

Lived experience of disasters generates a lot of innovation. Regional problems require regional solutions, and innovation is often generated within the communities that face the greatest challenges. Conversely, failure to engage with and listen to people directly affected by disasters misses a significant opportunity for innovation and improvement. **Locally led innovation initiatives** yield appropriate solutions for low-resource environments, rely on local skills and experience, and are potentially replicable in scale. Scaling is not easy, however, and supporting innovation externally should focus on finding such solutions and seeking ways to support them so they can be scaled up.

Panellists discussed **the trap of viewing youth (and other underrepresented groups) as merely a third party or 'people at risk'**, when they should instead be engaged as the innovators and problem-solvers themselves. Youth and young professionals should be consulted to analyse problems and create possible solutions. The collective intelligence, entrepreneurship and 'frontier thinking' of young people can also be leveraged to build anticipatory actions.

Strategies gleaned from experience that can support scaling include:

- The transference of ideas – this requires the least effort, but is also the hardest to capture
- Formal enablement and incubation – inviting ideas from lived experience
- Leveraging technology for scaling – though traditionally 'innovation' refers primarily to technology, technology is better viewed as a tool that, when used in concert with data, can be used to customise innovations at scale
- Advocacy, which is crucial for sustainability of innovations and long-term societal change.

Session participants noted that **scaling up requires flexible funding, a willingness to invest** in high-risk financing, and timing investments effectively. It also requires policy that encourages social enterprise, and partnerships that leverage the strength of markets, governments and civil society. A co-design ideation for physical and fiscal planning and design, strategic network design, modelling and simulations, and people-centric livelihood revitalisation can foster these conditions.

Shared practices and examples from the discussion
- National Disaster Management Authority (NDMA) of India: Compendium of passive home cooling strategies, developed and scaled from lived experience
- Science–policy–practice nexus: building resilience in Java

Recommendations and solutions proposed during the session
- Support locally led initiatives, particularly those generated by youth and women, and leverage the role of local actors for innovation that is grounded in and generated through lived experience.
- Change 'inclusivity' mindsets away from bringing something *to* community and towards co-creation (meaning innovation coming *from* the community).
- Create and foster greater neighbour-to-neighbour and South–South synergies and collaboration.
- Increase investment in scholarships, grants, endowments, mobilisations and seed funding for youth.
- Approach data not only as numbers, but as a multiplier of knowledge, wisdom and action.

Spotlight Sessions

Spotlight Session 1: Scaling up Disaster Risk Reduction in Fragile and Conflict Contexts

Pillar 3: Resilient Communities

Background and rationale

Conflict and DRR efforts are inherently linked. Increasingly, evidence shows that people and institutions in fragile and conflict-affected contexts are at higher risk of disasters, with 58% of deaths from natural-hazard related disasters occurring in the top 30 most fragile states.[2] Meanwhile, violence, conflict and fragility can undermine the capacity of governments, donors and civil society stakeholders to protect communities from and respond to disasters and implement policies minimising disaster risks.

Session objectives

- Discuss the multi-dimensional nature of risks, the ways in which disasters, conflict and fragility intersect, and their impact on people's vulnerability and ability to recover.
- Share recommendations on how actors in fragile and conflict settings can more deliberately embed integrated approaches to climate action, humanitarian preparedness and DRR.
- Highlight synergies of alternate frameworks as a modality for elevating the disaster–peace nexus. This includes climate and health security frameworks that have adopted integrated approaches to risk governance and outline approaches for conflict prevention and risk management.

Main points of discussion

The panel discussed how **violence and conflict undermine implementation of and financial support for DRR initiatives**, while simultaneously magnifying the risk created by natural hazards. Compounded vulnerabilities, capacity gaps, short-term planning and response activities are limiting the ability of affected communities to respond to long-term issues. It is important to learn from experiences in disaster events and conflict to develop a more integrated approach to strengthening resilience.

As **the impacts of climate change** continue to increase, the risks posed to communities displaced by violence and conflict will escalate. This is because camps or sites to which displaced communities relocate are not chosen based on risk analysis (e.g. the Rohingya refugees being moved to Cox's Bazar, an area extremely prone to climate-induced hazards). While this increases the risks to refugees, it also worsens the risk profile for host communities.

Panellists noted that in Asia and Pacific, conflicts are often characterised as low-intensity, slow-onset social and/or communal strife that have early indicators such as hate speech. This makes it important for **actors working across development, humanitarian and peace sectors to coordinate and collaborate**, and use integrated risk tracking to adequately plan for and act upon warning signs.

Localisation becomes an important consideration in the provision of more targeted and context-relevant support – particularly when working with refugees and host communities.

Shared practices and examples from the discussion

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[2] When disasters and conflict collide: uncovering the truth | ODI: Think change

- Cordaid is applying an integrated approach to its risk prevention process, and applying Community Managed Disaster Risk Reduction in fragile and conflict-affected areas
- In Cox's Bazar, after mapping landslide vulnerability risk in refugee communities' locations, the families facing greatest risk were moved or prioritised to receive relevant remedial or precautionary support.
- The Climate and Environmental Charter for Humanitarian Organizations, prepared by the Red Cross and Red Crescent Movement, is intended to support the humanitarian community to integrate DRR and climate change into their work and thinking.

Recommendations and solutions proposed during the session

- Target funding to promote integrated planning and programming. Increase financial support for DRR in contexts affected by fragility, conflict and violence.
- Support conflict-sensitive cash-based programming to shore up protection and support for people most at risk.
- Consider conflict as a disaster but also a driver of vulnerability and exposure. We need a better understanding of the interaction of conflict and climate change, and how these can exacerbate risks and problems.
- Move away from standalone DRR towards a sectoral, cross-cutting, anticipatory complementary approach that supports the people at most risk.
- Help local actors to understand the risks in their contexts, and to support affected communities in the absence of state actors.
- Identify and track early warning indicators of conflicts – particularly those that emerge as communal strife – to enable early mitigatory steps to be planned and implemented.
- Break down institutional silos among development, humanitarian and peace actors, and ensure coherent and complementary people-centred approaches to DRR.

Spotlight Session 2: Supporting Health System Resilience through the Bangkok Principles

Pillar 2: Governance and Stakeholder Engagement for Resilient Infrastructure Services

Background and rationale

In a pandemic, changing climate and times of geopolitical uncertainty, multi-hazard risks are putting unprecedented strain on health systems worldwide. Health system resilience is strongly promoted throughout the Sendai Framework for Disaster Risk Reduction. Actions under Priority 3: Investing in Disaster Risk Reduction for Resilience, speak directly to enhancing the resilience of national health systems, ensuring access to basic health services.

The Bangkok Principles (2016) support implementation of the health aspects of the Sendai Framework. They place strengthened coordination at the heart of efforts to reduce risk from biological hazards. They call for an inter-operable, multi-sectoral approach to promote systematic cooperation, integration and coherence between disaster and health risk management.

Session objectives

- Explore how the health and DRR communities can work together to support the health community to enhance health system resilience.
- Explore how operationalisation of the Bangkok Principles and Health EDRM can support health system resilience.

Main points of discussion

The session recapped the seven Bangkok Principles, before focusing on their multi-sectorial integration aspects.

Panellists emphasised that public **health and DRR need to work hand in hand**, and to do so under common frameworks. The session raised the concept that all hazards are multi-sectoral. Multidisciplinary collaboration was discussed at length, but the consensus was that it has proved difficult for health and other sectors to work beyond their highly specialised silos. Nonetheless, the breaking down of silos is essential to reduce disaster risk, and this can only be done through the better and more integrated communication that the Bangkok Principles facilitate.

In addition to its obvious drain on resources, COVID-19 has yielded some positive outcomes. For instance, **the pandemic provided an opportunity to revisit the idea of disaster coincidence**. It forced healthcare professionals and policymakers to improve their preparedness and response during disasters, and showed that a multidisciplinary approach to evidence generation supports both health and DRR efforts. Multilateral communication on research findings is beneficial and needed continually, and the direction of and priorities for research should mutually inform each other. COVID-19 also catalysed significant upgrades in systems and facilities, including for risk reduction and response. In Timor-Leste, the pandemic spurred development of a coordinated response from decentralised health facilities.

There is benefit in thinking outside the box to **make use of valuable health resources to support other areas relevant to DRR**. Part of the challenge with this is the need for a common language, and this further emphasises the benefits of coming together under the Bangkok Principles as a uniting framework.

Panellists suggested that **communication about risks, preventive measures and health information** – and just as importantly, misinformation – is hugely important. Research is only effective if it is communicated well. At the end of the day, effective communication to mitigate the worst of crises hinges on building trust between communities and practitioners, and this trust should be built on research and evidence, policy and open information.

Shared practices and examples from the discussion

- Research from Hong Kong on heatwave warnings highlighted the need for improved community health risk literacy. The project found that while health warnings penetrate the population well, individual understanding of associated risks was poor.
- The Asia Pacific Risk & Resilience Portal (by UNESCAP) is a tool for assessing multi-hazard risks, compounding vulnerabilities and cascading impacts of disasters in health or energy systems.

Recommendations and solutions proposed during the session

- Emphasise trust-building in health communications, with a basis in research and evidence, policy and information sharing.
- Break down knowledge silos between health and DRR using the Bangkok Principles as a common language.
- Document lessons from COVID-19 on how to strengthen multi-hazard resilience of health systems by integrating risk information and resilience building measures into public health management systems (e.g., operations continuity planning for critical health infrastructures)
- Consider how DRR strategies (e.g. risk communication, preparedness and contingency plans) can include biological risks, such as epidemics.
- Build the culture of volunteerism and community health education which is essential to resilience.
- Highlight the mutual interdependence of health and infrastructure which is an area that needs much greater attention and a higher profile.

Spotlight Session 3: Disability-Inclusive Disaster Risk Reduction: How Leadership of People with Disabilities is Critical to an Effective Localisation Agenda
Cross-cutting theme

Background and rationale

Disability-inclusive DRR requires the meaningful participation of a broad range of people with disabilities (physical, mental, intellectual or sensory impairments). Article 11 of the UN Convention on the Rights of Persons with Disabilities (CRPD) requires countries to take 'all necessary measures to ensure the protection and safety of persons with disabilities in situations of risk, including situations of armed conflict, humanitarian emergencies and the occurrence of disasters'. Moreover, the Sendai Framework for Disaster Risk Reduction 2015-2030 recognises the importance of empowering persons with disabilities to publicly lead and promote gender-equitable and universally accessible response, recovery, rehabilitation and reconstruction approaches. The Sendai Framework also recognises the critical need for inclusion of persons with disabilities and organisations of people with disabilities (OPDs).

Session objectives

- Learn from people with disabilities about their needs and experiences in disasters and DRR processes. This includes understanding how women, girls, men, boys and LGBTQI+ people are involved in DRR, and what they see as the main barriers and opportunities to be engaged more fully and supported to lead in their communities.
- Identify best practice mechanisms for disability inclusive DRR.
- Provide recommendations on how to involve and engage persons with disabilities and their organisations to include their perspectives, skills, knowledge and experiences, to achieve the commitments of the Sendai Framework and enable effective locally led DRR activities.

Main points of discussion

Panellists discussed the impacts, needs and experiences of people with disabilities during disasters and DRR processes. One strong theme was the **barriers to their inclusion**, which include:

- Standardised solutions during response, and homogenous approaches to disability inclusion that fail to recognise the diversity within the community of people with disabilities
- Lack of resourcing
- Data gaps or lack of (or lack of use of) disability-disaggregated data to inform planning and services
- No representation of people with disabilities in DRR committees, strategies and plans
- The communication, infrastructure and attitudinal barriers that persons with disability face in DRR, early warning systems, and recovery programs.

The session highlighted the **need for persons with disabilities to be recognised as persons with agencies and capacities** in order to respect their human rights and dignity.

Panellists drew on their specific expertise to discuss nuances in the experiences of people with disabilities. One shared that **women with disabilities** are four times more likely than women without disabilities to experience **gender-based violence (GBV) and sexual harassment**, and that they have few avenues for reporting and seeking support. Another panellist talked about the **experience of people with disabilities in mental health institutions**. During disasters, many people with disabilities in institutions are forgotten,

or unable to travel due to difficult terrain and interrupted transportation services. The CRPD Monitoring Committee recently released Deinstitutionalisation Guidelines Including During Emergencies, which calls on governments to plan for deinstitutionalisation during emergencies.

Another panellist highlighted **the vital role of OPDs** in ensuring that DRR policies and programs employ a disability inclusion lens, and that governments and NGOs should continue to recognise their work, consult them, and ensure they are adequately and sustainably funded. Inclusive DRR is recognised in theory, but practice is lagging.

The session was shown a video created by CBM that shows ways to **ensure inclusive DRR efforts**. It recommends identifying people with disabilities in the community during needs and vulnerability assessments, including people with disabilities in DRR plans, providing transportation during evaluation, and electing people with disabilities to DRR committees.

Panellists spoke of **the importance of localisation** and of community support systems, and recognised that people do look after each other and support each other. They called on the government to recognise the value of community support systems and fund them adequately and sustainably.

Shared practices and examples from the discussion

- Pakistan: Established a task force within the UN Protection Cluster to ensure that persons with disabilities are part of discussions with UN agencies.
- Fiji: Tropical Cyclone Winston (2016) – aid distribution centres and evacuation points need to be accessible and available prior to a disaster occurring.
- The UN CRPD Monitoring Committee recently released its Deinstitutionalisation Guidelines Including During Emergencies which call upon governments to plan for deinstitutionalisation of persons with disabilities during emergencies and to stop funding institutions.

Recommendations and solutions proposed during the session

- Stand in solidarity. Recognise that people with disabilities are people first and then people with disability second, and challenge the vulnerability narrative. People with disabilities have capacity to assist with changes at each level of DRR policy and programs.
- Enable representation of people with disabilities, via OPDs, in disaster committees at all levels (community, sub-national, national) to ensure the voices and priorities of people with disabilities are expressed, heard, and incorporated into future DRR plans and activities.

Spotlight Session 4: Gender Transformative Disaster Risk Reduction
Pillar 3: Resilient Communities | Cross-Cutting Theme

Background and rationale

Gender inequalities and discriminatory norms result in gender-differentiated exposure and vulnerability to hazards, with disasters exacerbating the prevailing gender inequalities that exist in all countries and across all societies. The Sendai Framework calls for the mobilisation of women's leadership in building resilience, and recognises that disaster risk resilience systems must be inclusive, informed by gender analyses, and empower women. However, inadequate attention has been given to the ways in which gender inequalities and disaster risk exacerbate each other, and how this fact can be utilised to advance gender equality and women's empowerment through the implementation of the Sendai Framework.

Session objectives

- Showcase best practice and case studies that demonstrate how gender-transformative DRR can combat discriminatory social norms and contribute to inclusive and sustainable risk-informed development grounded in human rights.
- Demonstrate ways in which efforts to 'build back better' after COVID-19 have reduced underlying gender inequalities that increase women's disaster risk.
- Recognise women leaders across Asia and the Pacific who are building resilient societies.
- Showcase the effectiveness of diverse women's and girls' engagement in the design, implementation, monitoring and evaluation of DRR efforts.
- Demonstrate how countries have mainstreamed gender and women's leadership, and added the prevention of and response to GBV to national and local DRR strategies, and share effective implementation of these strategies.

Main points of discussion

The session built on the outcomes from the 66th Commission on the Status of Women, which explored the links between gender, climate change, environment and disaster risks. The session was designed to solicit recommendations from the panellists and audience on specific actions to include in a Gender Action Plan for the Sendai Framework.

The discussion focused mostly on **existing efforts to mainstream gender within government institutions**. In Cambodia, the Ministry of Women's Affairs is the government agency working to meet the needs of at-risk groups. The Institute of Statistics has improved gender data, which allowed it to understand specific issues and gaps, providing evidence to support gender-responsive budgeting and planning. This is particularly helpful when lobbying the Ministry of Economy and Finance for budget for project implementation. In Kiribati, the adoption of the Kiribati Joint Implementation Plan for Climate Change and Disaster Risk Management 2019-2028 enabled the establishment of the Kiribati National Expert Group on Climate Change and Disaster Risk Management, a national multisectoral coordination body composed of government ministries, community members and NGO representatives. The International Planned Parenthood Federation (IPPF) works with the Expert Group to ensure that sexual and reproductive health is considered in climate change and DRR discussions.

The vital **work of women-led organisations and women's networks in responding to the needs of diverse women and girls during disasters** was also highlighted. During TC Pam, women from Vanuatu were disconnected from early warning systems and early preparedness processes. Women leaders who were members of *Woman I Tok Tok Tugeta Sunshine* worked to learn weather patterns and developed warning messages for the community. In 2020, the Shifting the Power Coalition supported six women leaders to perform rapid response emergency assessment, identify short-term and long-term needs, and distribute relief.

Shared practices and examples from the discussion

- Pakistan: A Gender and Child Cell was established in 2010 under the office of the Prime Minister of Pakistan. The Cell helped to ensure that policies and programs are gender responsive, including guidelines, policy documents, and standard operating procedures on GBV and sexual and reproductive health.
- Cambodia: The Institute of Statistics improved its gender statistics, allowing production of evidence to support gender-responsive budgeting and planning.
- Kiribati: The Kiribati National Expert Group on Climate Change and Disaster Risk Management works with the IPPF to ensure that sexual and reproductive health is considered in climate change and DRR discussions.
- Vanuatu: In 2020, the Shifting the Power Coalition supported six women leaders to perform rapid response emergency assessment, understand the short-term and long-term needs of women, and distribute relief.

Recommendations and solutions proposed during the session

- Ensure governments enable women and people most at risk to participate in decision-making at all levels and support them to do so.
- Recognise the importance of an intersectional approach that acknowledges the ways in which intersecting identities can affect an individual's risk.
- Include sexual and reproductive health services and prevention and response to GBV in DRR efforts.
- Encourage government and policymakers to recognise and support the platforms and networks working on early warning initiatives at the community level.
- Invest specifically in young women's leadership in DRR.

Spotlight Session 5: Disaggregated Data, Country Diagnostics and Leaving No One Behind

Pillar 3: Resilient Communities | Cross-Cutting Theme

Background and rationale

Understanding disaster risk in all its dimensions of vulnerability, coping capacity, exposure and hazard is essential to develop and implement strategies to prevent, reduce and manage present and future risks. One of the foundations of risk-informed development is an evidence-based approach to policy and investment decisions that address the needs of those most at risk to disasters. Policymakers mostly rely on official statistics – compiled and analysed with empirical rigour – in all areas of governance, including DRR.

Session objectives

- Highlight how to leverage statistical expertise and standards to improve the quality of disaggregated damage and loss data in order to measure progress in the implementation of the Sendai Framework across the Asia–Pacific region.

- Identify strategies and incentives for exchange of data across levels of government and public–private partnerships to improve the collection and reporting of sex, age, disability and income exposure, vulnerability, disaster damage and loss data in the region and improve data sharing between partners – particularly the private sector and governments.

- Explore use of risk and disaster data, including climate change projections, to support risk-informed assessments, policies, programs and investments within the capacity of each member state.

- Share good practices, knowledge and lessons on disaggregated disaster risk-related data (including data on damage and losses) collection for replication in other countries in the region.

Main points of discussion

The panel discussed **the importance of high-quality, disaggregated data to support better decision-making in DRR and response**. It also explored the challenges and practical realities the sector faces. As the frequency and scale of disasters increase, it becomes more critical that data-driven decision-making is used to improve the targeting of planning and support to DRR and resilience building – particularly in ensuring the most at-risk communities are supported.

One of the key challenges is that DRR data is often collected and held by different stakeholders (such as federal, state or local governments and departments, aid actors, civil society and private sector organisations such as insurance agencies). **There is a need to standardise data collection and processing.** This requires standardised tools and templates, including globally recognised tools for collection of data on people with disabilities.

Efforts at various levels are underway to implement procedures to facilitate and **simplify data sharing and use**, which is often complicated due to policies that govern the collection, storage and sharing of data. However, it was also highlighted that privacy needs to be respected, particularly in relation to identifiable data.

The panel discussed the **need for data to be made decision-ready** to enable faster decision-making. For data to support decision-makers, pre-planning among partners, establishing channels of communication and agreeing on the necessary decision-ready data is imperative.

Simply relying on high-level data and averages can be misleading because they don't tell a complete story and hide important gaps (particularly in relation to at-risk or marginalised groups). Therefore,

disaggregation of data is important to ensure specific trends and even gaps in information are identified. Most countries still struggle to capture and report disaggregated date in line with the Sendai Framework. However, lessons can be shared among countries to help them to gradually improve their existing processes.

Shared practices and examples from the discussion

- The Pacific Community (SPC) is using satellite data to map data (such as vegetation cover, coral cover and sea levels) across all Pacific countries to enable better planning and response to disasters. This data can be used for pre- and post-impact tracking, and real-time planning during disasters. SPC is working to implement arrangements with Pacific governments to share information in a decision-ready format.
- With the recent establishment of the National Emergency Management Agency (NEMA), Australia has an end-to-end disaster management organisation. NEMA Australia is working to establish processes and policies to enable collaboration among actors from different fields and enable appropriate sharing and use of data across multiple layers.
- NEMA Mongolia is working with the National Statistical Office of Mongolia to implement standardised templates and tools to collect and report on disaggregated data, in line with the Sendai Framework.

Recommendations and solutions proposed during the session

- Support early planning of data collection, use and sharing to enable better coordination among partners, and allow communities to provide informed consent on its use and distribution.
- Use of standardised tools such as the Washington Group Questions enables more respectful and standardised collection of data on people with disabilities.

Spotlight Session 6: Strengthening Inclusion of Indigenous Knowledge to Build Resilience

Pillar 3 - Resilient Communities | Cross-Cutting Theme

Background and rationale

Indigenous peoples' unique intergenerational trust networks and value systems, ancestral knowledge, cultural practices, and local expertise and connections to the land have supported disaster prevention, mitigation, preparedness, response and recovery mechanisms over generations. In particular, evidence have shown that indigenous knowledge, cultural practices, and local expertise have provided early warning and enabled early action for communities facing natural hazards. The Sendai Framework for Disaster Risk Reduction 2015-2030 calls for governments to engage directly with indigenous peoples to co-design and implement DRR policies, plans and standards, and to inform and complement disaster risk assessments with traditional, indigenous and local values, knowledge and practices, yet indigenous communities struggle for their voices to be heard and to share their knowledge and expertise in these spaces.

Session objectives

- Provide a platform for indigenous peoples' perspectives on disaster risk to be heard.
- Demonstrate ways indigenous knowledge can complement scientific knowledge for enhanced understanding of risk and multi-level resilience.
- Demonstrate ways indigenous knowledge and cultural practices can contribute to and complement mainstream DRR approaches and sustainable development.
- Convey priority actions to support better inclusion of indigenous knowledge into mainstream DRR practices and sub-national and national government decision-making.
- Highlight the existence and importance of indigenous intellectual property rights. Indigenous knowledge can only enter mainstream DRR practices when it has the free, prior, informed and ongoing consent of indigenous peoples.

Main points of discussion

A key theme was **bridging the nexus between indigenous knowledge, science and policy**. One panellist shared that government officials rarely make an effort to learn their language, history and cadence and as a result, there are increased intellectual property vulnerabilities. There was also a discussion on the need to understand and document when 'colonial science' and indigenous knowledge can intersect and when they can work separately.

The panellists discussed the **challenges in ensuring that indigenous communities are engaged with in DRR policies and programs**. One speaker from Tonga shared his frustration at lacking clear guidelines for implementing the Sendai Framework with indigenous communities – specifically, which activities to implement in order to achieve Sendai targets by 2030. A database of good practices could assist their implementation in work with indigenous communities, both at the global level and particularly in Tonga. Another key challenge highlighted by all panellists is the lack of long-term resourcing to support indigenous communities.

The **importance of an intersectional approach,** and particularly **the lack of representation of indigenous women in decision-making spaces**, was another emergent theme. The UN Declaration on the Rights of Indigenous Peoples Article 15 acknowledges that indigenous peoples are not homogenous, and diverge in terms of language and culture. In some countries, multiple identities of indigenous peoples are not acknowledged in national DRR policies.

Indigenous peoples' role in land management was also recognised, particularly as custodians of land and biodiversity.

Shared practices and examples from the discussion

- International Indigenous Youth People Network – a platform for Indigenous Youth across the globe to connect.

- In Australia, an initiative led by Firesticks Alliance offers First Nations women a culturally safe environment in which to come together and exchange intergenerational, cross-cultural knowledge, whilst highlighting the importance of women leading in those spaces. The Alliance also has a wholly owned cultural fire credit scheme ([Firesticks – Introducing Cultural Fire Credits](#)).

Recommendations and solutions proposed during the session

- Provide long-term resources to support indigenous communities, particularly in the area of climate action.

- Respect indigenous people and ensure they are involved in decisions that affect their day-to-day lives.

- Develop mechanisms that can strengthen policy development with indigenous communities, including policy relating to DRR mechanisms such as early warning systems.

- Integrate gender, ensure cultural sensitivity and pursue an intersectional approach to vulnerability mapping.

- Create a database of good practices in working with indigenous knowledge.

Spotlight Session 7: Elevating Local Voice and Leadership for Better Response and Resilience

Pillar 3: Resilient Communities | Cross-Cutting Theme

Background and rationale

All disasters are local, and local actors are critical to every stage of a disaster. They work on prevention in their communities before a disaster occurs, lead and support response efforts when a disaster strikes, and help with recovery. They bring with them contextual understanding of their communities and valuable local knowledge that can shape inclusive and accessible DRR, resilience and response. That is why diverse and representative national and local leadership is critical to effective DRR. The COVID-19 pandemic engendered greater reliance on local actors – albeit with inadequate resourcing and support, and unfair risk distribution, highlighting the need for a more equitable operating model that truly elevates local voice and leadership in shaping response and resilience.

Session objectives

- Showcase the importance of diverse local voice and leadership in shaping resilience, response and recovery, and how it leads to better outcomes in DRR.
- Discuss how gender and disability-inclusive DRR initiatives driven by local actors can advance achievement of Sendai Framework targets.
- Share practical and successful examples of how local voice and leadership has led to more effective prevention.

Main points of discussion

The panel discussed **how local community-based organisations (CBOs), CSOs, NGOs and community leaders are driving DRR and resilience within their communities and countries**. Often their roles are inadequately recognised or supported, and they are given insufficient power to inform decision-making and influence policy.

As first responders, CBOs and CSOs play an important role in ensuring that DRR, resilience and response activities are based on the needs and priorities of the communities they serve. These networks work can be mobilised prior to the onset of natural hazards.

Local women give valuable support to DRR and disaster response in Pacific communities, but their contribution is mostly unrecognised and undervalued. Examples from the recent Hunga-Tonga-Hunga-Ha'apai volcanic eruption and tsunami in Tonga highlighted how women supported the community in the immediate aftermath and in building resilience as the community recovered.

People with disabilities are often at high risk (four times more likely to die or be seriously affected) during disasters, and therefore should be engaged in the planning and implementation of DRR activities. While disability-inclusive planning improves DRR activities for all in the community, people with disabilities are not given sufficient opportunities to engage and inform decision-making. OPDs need to be better supported to represent the needs of the diverse range of people with disabilities who play an important role in their communities.

Civil society networks and local NGOs needs to be supported to represent their communities, and to hold both governments and the aid sector to account for their decisions and actions. This support should not

be limited to development or humanitarian activities, but across bilateral and multilateral engagement, including civil–military coordination processes.

Shared practices and examples from the discussion

- [OPDs in Vanuatu and Solomon Islands are making a difference](#) in how people with disabilities are included and considered in DRR.

- In response to the volcanic eruption and tsunami in Tonga, the Pacific Islands Association of NGOs and the Fiji Council of Social Services mobilised the Fiji community to collect relief supplies to send one of the [first consignments relief aid to Tonga](#). The Civil Society Forum of Tonga received these items and distributed them among at-risk families (some not covered by official distributions). The ability for these organisations to coordinate even during a communication blackout highlights the critical role of civil society networks and the importance of local knowledge.

- The [SEJAJAR network in Indonesia](#) enabled greater coordination among local NGOs and CSOs during the COVID-19 pandemic, with the Indonesian Development and Humanitarian Alliance bringing together a large network of NGOs and CSOs to improve coordination and advocacy.

Recommendations and solutions proposed during the session

- Engage local CSOs in all spheres of decision-making and planning and ensure they are resourced adequately and sustainably. Donors and international actors play an important role in channelling financial support, but also in transferring power to local NGOs and CSOs.

- Provide greater recognition and funding to OPDs to engage in DRR processes. This requires OPDs not only to have a seat at the table, but to influence decision-making and planning.

- Provide greater voice and roles to local NGOs and civil society at the next Asia Pacific Ministerial Conference on DRR to recognise their value in DRR and resilience. This needs to be seen as a priority if localisation and community-focused DRR are to be achieved.

Spotlight Session 8: A Human Rights-Based Approach to Disaster Displacement
Cross-Cutting Theme

Background and rationale

Across the Asia–Pacific region, slow-onset disasters, including drought driven by climate change, are key drivers for displacement. Given the scale of disaster displacement and its serious human rights and humanitarian consequences, with recent data showing that weather-related hazards such as floods, tropical storms, and monsoon rains were responsible for 95% of all disaster displacements across the region,[3] ensuring that individuals and communities are not forced to move as a result of disasters requires effective governance and actions, including risk-informed decision-making with regard to building codes, land use and strengthening of critical infrastructure.

Session objectives

- Highlight the importance of a coherent approach to disaster displacement that integrates DRR with human rights, humanitarian assistance, sustainable development, CCA, and human mobility planning.

- Demonstrate how a human rights-based approach to disaster displacement can help 'connect the dots' across sectors, stakeholders, and governance levels in order to leave no one behind.

- Showcase examples of effective risk governance approaches that reduce risks associated with disaster displacement, improve the protection of displaced people, and support the resilience of communities, including host communities.

Main points of discussion

Panellists discussed **the role of data in shaping approaches to disaster displacement**. While data does not suggest that displacement is increasing, this is likely due to under-reporting. Data can demonstrate the longer-term consequences of displacement, such as economic costs and financial losses, to attract attention from wider audiences.

Disaster displacement often contains an element of force, so the upholding of human rights-based approaches that protect and promote the rights of people who are displaced is essential. The UN Guiding Principles on Internal Displacement (UNGPID) provides a useful framework for **the integration of human rights into DRR agendas**. Doing so puts the primary responsibility for DRR on governments at all levels, which are responsible for protecting and promoting human rights.

The session raised the point that **displaced persons are entitled to the same rights and freedoms as non-displaced persons, including the right to participate in decision-making affected them.**

It was also noted that displacement is experienced very differently by different groups. For example, displacement due to volcanic activity in Ambae, Vanuatu, disproportionately affected women's employment and children's access to education. In other cases, people with particular attachment to the land experience loss of stewardship, culture and other major aspects of their lives. These examples emphasise why DRR processes must draw on multiple human rights frameworks, such as the Convention on the Rights of the Child, and the Declaration on the Rights of Indigenous Peoples.

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[3] Internal Displacement Monitoring Centre, "Disasters triggered 225 million internal displacements across Asia and Pacific region between 2010-2021," IDMC (2022)

The Vanuatu experience highlights that disaster displacement policies should be applicable to multiple forms of disaster (including slow onset). They should ensure that traditional knowledge is maintained and allow for an exchange of culture and ideas in areas where people are displaced. Communities must be aware and informed, which requires local-level training.

Civil society has an important role to play, but panellists indicated that responsibility sits with governments. The Bangladesh National Strategy was offered as an example of a framework that aims for inclusion of all sections of society in decision-making, the breaking down of knowledge silos, and creating space for voluntary migration as one tool of CCA (this only has an internal displacement focus and does not cover cross-border displacement).

In addition to the UNGPID, the Sendai Framework, the Nansen Initiative, the SDGs, and the Paris Agreement offer useful guidance for integrating human rights into disaster displacement frameworks.

Shared practices and examples from the discussion

- [Vanuatu National Policy on Climate Change and Disaster-Induced Displacement](#)
- [Bangladesh National Strategy on the Management of Disaster and Climate Induced Displacement](#)

Recommendations and solutions proposed during the session

- Take a holistic approach with cross-sectoral partnerships that prioritise the rights and needs of displaced people and affected communities to avert or minimise the risks associated with disaster displacement.
- Encourage governments to apply a human rights lens to disaster displacement strategies, meeting their responsibility to protect irrespective of whether an individual is displaced.

Spotlight Session 9: Children and Youth in Action
Pillar 3: Resilient Communities | Cross-Cutting Theme

Background and rationale

The Sendai Framework for Disaster Risk Reduction 2015-2030 recognises children and youth as agents of change, emphasises the need for youth leadership to be promoted, and for children and youth to be given the space and modalities to contribute to DRR. A child and youth-centred approach to DRR values their opinions, energy, innovations and insights to ensure all children and youth can be healthy and live free from harm. It aims to ensure that their voices are equally valued and heard on decisions that affect them and that they are able to safely learn, rest, work and play as they grow, no matter where they live and who they are.

Session objectives

- Share examples of how governments have integrated children and youth into national DRR strategies, policies and programs, including through comprehensive school safety programs.
- Ensure that the voices of youth are heard during negotiations and decision-making processes when developing DRR policies.
- Demonstrate innovative, positive and creative children and youth-led approaches to reducing DRR and driving youth-led climate action in their communities.

Main points of discussion

This discussion strongly emphasised the need to **elevate the voices of youth and children to governments and key decision-makers**. This will empower youth leaders in DRR, which is necessary because they will have to deal with disasters that result from current and recent actions. The speakers stated that while some good progress has been made in reaching these objectives, there is still a long way to go, and that leaders still reject children and youth in the DRR leadership space. There was discussion of the need to see children/youth as not simply vulnerable to disasters, but as leaders and participators in DRR.

Speakers highlighted **the importance of psychological support for youth and children in disaster recovery**. This was exemplified in the provision of books and coloured pencils to children to mitigate traumatic experiences during the Hunga Tonga-Hunga Ha'apai volcanic eruption and tsunami in 2022.

There was considerable discussion of how children and youth are among the most at risk to disasters, and that the need to better engage youth in DRR planning and decision-making is critical to mitigating these vulnerabilities. The session also focused on the need for **meaningful inclusion of youth**; participants stated that efforts to engage youth often lack committed and serious objectives and intention. Speakers emphasised that youth are not a homogenous group, and are differentiated by gender, disability, and identity among others.

The prominence of youth in the global conversation on climate change was raised during the session. Speakers wondered if there was something to learn from how youth movements have mobilised climate change action through activism and engagement, and the possibility for this to be replicated in the DRR space.

Speakers questioned how DRR is operationalised, and how this largely excludes groups such as youth and children. For example, decision-making is still made at the top level, by governments and senior figures,

with little opportunity for consideration of alternative ideas, knowledge and experiences that could be harnessed through more inclusive discussions and decision-making processes. One speaker raised the point that youth leaders/speakers often went unheard due to norms and attitudes that mean older, more experienced figures dominate this space.

In addition to the need to create youth-centred platforms for DRR, the discussion interrogated ideas on how to make them accessible, and how to ensure the ideas emanating from them would contribute meaningfully to DRR policy and decision-making.

Shared practices and examples from the discussion

- Comprehensive School Safety Framework, UNDRR 2017.
- The Action for Climate Empowerment: Guidelines for accelerating solutions through education, training and public awareness, UNFCCC.
- Red Cross Red Crescent Youth-Led Strategy for Climate Action, RCRC Movement.
- Child-Centred Disaster Risk Reduction Programme – Save the Children New Zealand (from audience member, not panel).
- A Tongan youth-focused radio station helped motivate youth and supported them to utilise their time productively in the aftermath of the volcano eruption and tsunami in January 2022.
- Schoolchildren (session attendees) spoke of how they raised funds to help rebuild their school after it was destroyed during the Queensland floods. They launched an online campaign and allowed the community to engage and raise awareness.

Recommendations and solutions proposed during the session

- Recognise that young people are agents of change; stop 'youth-washing' or having young people in dialogues and events simply for good PR and marketing[4], and implement concrete actions. Channel more investment into establishing youth-accessible platforms for engagement and input (e.g. policy dialogues).
- Include DRR into school curriculums in order to engage youth and children. Teachers should be provided with appropriate information and knowledge and ensure information reaches remote schools or children with limited accessibility.
- Create youth-focused DRR programs that are fun and engaging – suitable for a younger audience – and simplify technical DRR language and terminology to broaden accessibility and engagement.
- Consider lowering the voting age to 16 (an audience member described this as an idea gaining traction in New Zealand) to increase the agency of youth in decision-making.

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[4] R Frost, "What is 'youthwashing' and is it dangerous for the climate movement?" *Euronews.green* (2021).

Spotlight Session 10: Addressing the Risk Faced by LGBTQI+ People and People with Diverse SOGIESC

Cross-Cutting Theme

Background and rationale

LGBTQI+ people and people with diverse sexual orientation, gender identity, gender expression and sex characteristics (SOGIESC) face specific disaster risks that are rarely addressed in DRR efforts. Members of this community have experienced violence in evacuation centres, been harassed, excluded from receiving cash or other forms of assistance due to their identity, and faced difficulty in accessing recovery assistance, particularly if already in insecure housing. The championing of a human rights approach to DRR can help to address the discrimination faced by LGBTQI+ people and people with diverse SOGIESC. At the same time, there is strong social capital among the LGBTQI+ community that can provide innovative coping mechanisms and resources to assist their communities.

Session objectives

- Highlight the experiences of LGBTQI+ people and people with diverse SOGIESC in disasters and share case studies of how they have reduced the disaster risks they face.
- Build awareness among DRR stakeholders of the emerging work on the inclusion of LGBTQI+ people and people with diverse SOGIESC in DRR efforts.
- Discuss how government efforts to develop inclusive DRR policies and strategies can meet the specific needs and reduce the vulnerabilities faced by LGBTQI+ people and people with diverse SOGIESC. These efforts include the development of safeguarding practices and guidelines, training on inclusive practices, and data collection methodologies that recognise and report people's SOGIESC.
- Highlight the roles of diverse CSOs in linking DRR actors with community members to develop equitable, effective and safe partnerships.

Main points of discussion

The session revolved around a case study featuring a lesbian couple who took care of a deaf child. It describes their experience of discrimination and harassment within their coastal community and their struggle to obtain support from the government and NGOs. Each panellist read a portion of the case study and was asked to share their reflections. Thereafter, all participants were asked to join small groups to discuss the case study and share their reflections on how DRR policies or programs can be changed to increase inclusion of LGBTQI+ people.

The **lack of aid to and protection of LGBTQI+ people and people with diverse SOGIESC in the relief and recovery phase** was highlighted in the discussion, and that the **pre-emergency marginalisation** they face is often exacerbated during disasters. The case study identified, for example, that LGBTQI+ people are not mentioned in national disaster management legislation or plans. Moreover, as some influential groups such as churches, governments and community leaders take a strong anti-LGBTQI+ stance, deterring NGOs from working with LGBTQI+ people due to the threat it could pose to their funding and support from the communities.

Panellists shared real-life stories from disaster responses in which **LGBTQI+ people had difficulty in accessing relief and government assistance**. Some people lack government-issued identification that

recognises their gender (e.g. the transgender community in Nepal following the earthquake), or are ineligible for assistance due to rigid definitions of what counts as 'family' in vulnerability and needs assessment (e.g. in the Typhoon Haiyan response in the Philippines). This exclusion results in a massive gap on data and evidence about LGBTQI+ people, which contributes to the government and NGOs not meeting their needs during and after disasters.

The **organisational capability of humanitarian and development NGOs to work on LGBTQI+ issues** was another key theme. This includes organisational policies, recruitment practices, the development of safeguarding practices and guidelines, training on inclusive practices, and data collection methodologies that recognise and report people's SOGIESC. In their ground-breaking research '[The Only Way is Up](#)', Edge Effect found that DRR, humanitarian and development organisations have not developed the capacity to cater for the rights, needs and strengths of people with diverse SOGIESC, and have not invested in training for their staff or reviewed their tools and procedures to ensure fitness for purpose for working with people with diverse SOGIESC.

Panellists discussed **partnering with and leveraging existing LGBTQI+ groups or networks** as a key good practice for inclusive DRR. This recognises the existing strength of LGBTQI+ groups and networks and their capacity to understand layers of vulnerability and how to best support their communities. One panellist noted that whilst it is good practice to partner with LGBTQI+ groups and networks, they are often stretched during emergency response, and may need to remain hidden for their own protection, so it is important to consider how to support them safely and resource them adequately and sustainably.

Shared practices and examples from the discussion

- Applying the DFAT-funded Reverse Partner Appraisal tool process, Edge Effect and a local LGTBQI+ CSO assessed the capacity of an INGO to work safely and effectively with LGBTQI+ people, including its policies, strategies, training, tools and safeguarding.
- Supporting and partnering with existing LGBTQI+ groups and networks such as Edge Effect, Diverse Voices of Action and Equality in Fiji, and the Asia Pacific Transgender Network.

Recommendations and solutions proposed during the session

- Ensure data sensitivity and protection of LGBTQI+ people during vulnerability and needs assessment. This recognises that some LGBTQI+ people want to remain anonymous.
- Leverage existing LGBTQI+ networks, organisations, research and tools.
- Support and engage LGBTQI+ networks, including through sufficient resourcing, to ensure inclusion of LGBTQI+ people in DRR programming and during emergency response.