THE FACE OF DISASTERS 2020

Building a resilient and sustainable future amid changing realities in Asia-Pacific

CURRENT REALITIES MEAN CHANGE IS THE ONLY CONSTANT!

THE CHANGING PROFILE OF HAZARD RISKS

The outlook for disasters in the region shows that we must put concerted effort to find new ways of response. Disasters are increasingly unpredictable; intensities are growing and 'unprecedented' events have become the new norm. Cyclone Fani in India in May 2019 was the strongest storm in 20 years and Typhoon Hagibis which hit Japan in October 2019 was the strongest the country had seen in 60 years.

Slow-onset disasters, including drought and coastal erosion, are putting people increasingly at risk. Sea level rise point to entire areas being uninhabitable in the future. Asia is projected to be home to the most people on land who will be vulnerable to the rise in average annual coastal flood levels by 2050.[1] This is being exacerbated by land subsidence (where the ground is falling), partly caused by excessive groundwater extraction. Indonesia has become the first country to begin plans of moving its capital, Jakarta, which is sinking at the rate of 6.7 inches a year.

At the same time, day zero –doomsday owing to water stress – is all too real for many cities in the Asia-Pacific region from Sydney to Bangalore.

Between January and October 2019, Asia- Pacific faced 115 emergency events across 31 countries. This included floods, storms, earthquakes, heat & cold waves, droughts, wildfires, volcanic activity and epidemics. 5338 people were killed and 54,936,435 people were affected.[2]

EVOLVING HOTSPOTS AND PEOPLE AT RISK

Multiple disasters in quick succession mean socio-economic and demographic factors are becoming increasingly relevant in the ability to bounce back (for communities and countries). Those on the margins are also the ones most-affected by the rising inequalities.

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Asia-Pacific also faces a changing demography in the coming years, with aging populations who are amongst the most-vulnerable, increasingly becoming a concern. The potential support ratio, which compares numbers of working-age people aged 25-64 to those over age 65, is falling around the world. In Japan, this ratio is 1.8, the lowest in the world.[3] Strengthening social support systems and concentrated efforts on inclusion of the elderly will become key.

By virtue of its geography, the entire region faces risks. Yet among the emerging hotspots are the trans-boundary river basins of South & South-East Asia; the sand and dust storm corridors as a result of land degradation and desertification in North and Central Asia; the highly active seismic risk in the Pacific ring of fire; and the Pacific small island developing states (SIDS). Multi-hazard risk from low-intensity but high frequency events will be higher in the Pacific SIDS.[4]

A person in Pacific SIDS is found to be three to five times more at risk of climate-related hazards than those in other parts of the region.

THE TANGLED IMPACT ON DEVELOPMENT AND PEACEBUILDING GAINS

For at-risk communities and affected families, the interplay between dealing with poverty, climate stresses and natural hazards doesn't have clear distinctions. Each reinforces the other. While the overall death toll from disasters is decreasing, economic impacts and the numbers of people affected continue to rise. When adding in slow-onset disasters like drought, the region's annual economic losses are up to USD $675 billion. Total average annual loss in Small Island Developing States (SIDS) is even higher, such as 15 per cent of GDP in Vanuatu, and 14 percent in Tonga.

Loss estimates owing to climate change are lower bound estimates because many impacts, such as loss of human lives, cultural heritage, and ecosystem services, are difficult to value and monetize, and thus they are poorly reflected in estimates of losses.[5] Much of these losses are informal and under the radar, with negligible insurance coverage. Just 8% of disaster losses across the region are insured.

Asia-Pacific is currently not on track to meet any of its SDG targets. In fact, it is regressing in some areas - 50 percent of which are environmental.

Hard-won development gains and achieving the Sustainable Development Goals are under threat in this changing scenario. In fact, the targets of Goal 8 around decent work and economic growth are regressing or making little progress in most of the region.[6] With small and medium enterprises accounting for over 90% of the registered enterprises, their resilience will play a key role.

At the same time, climate-induced displacement is also adding to conflict displacement. Over 17 million people were displaced globally by disasters in 2018 alone.[7] According to the World Bank, climate change could force 40 million in South Asia to permanently relocate internally by 2050. In protracted conflict zones like Afghanistan, this interplay means added risk.

RISING RISKS TO CIVIL SOCIETY

The idea and role of civil society itself is undergoing transformations across the region. It's an era where protests have seen a rise across the region, echoing patterns around the world, as citizens become more vocal in demanding change.

Yet at the same time, restrictions on civil society are rising and humanitarians, particularly environmental defenders, are at risk for the work that they do.

Rigid views and polarisations are making it harder to find common ground and work together. Multilateral institutions face several challenges and eroding confidence, with key players pulling out of hard-negotiated frameworks like the Paris Agreement.

Against this backdrop, disaster and refugee donor fatigue is real; and the competition for limited funds and public attention is increasing. This means increasing numbers of smaller emergencies will go unseen.

Civil society itself needs a new narrative, a new way of working with and bringing people together in an increasingly divided world.

Only 4% of the world's population lives in countries where civic space is open, meaning there is freedom of association, peaceful assembly and expression. In Asia-Pacific, there are just 10 areas that meet these criteria – Taiwan and 9 countries of the Pacific.[8]

8 EVOLVING AREAS OF ENGAGEMENT

This rapidly transforming landscape poses questions around how civil society should redefine itself to best bring value to at-risk communities.

1 Recognising and empowering local leadership on risk reduction issues

Over 90% of the world's disasters still go silent, attracting little national or international support. In these cases, it is up to local stakeholders alone to lead. During or post emergencies, local leaders have demonstrated incredible courage in bringing hope to communities in despair. Their perseverance and painstaking work in recovery have helped communities recover faster and better.

Emerging challenges also show us that reducing disaster impact and building resilient communities will require long-term and systemic shifts – in the ways we live, build, work and interact with the environment. While the macro challenges are similar across the region, the solutions must be tailored to local areas.

Truly addressing these challenges cannot be done without an aware, trained and empowered local leadership at its heart. From mayors to small business owners, community champions to civil society leaders, it is local leadership at a sub-national level that will be drivers for lasting change.

Debates around localisation have often been confined to that of funding – an issue which has still not been addressed with less than 3% going directly to local aid organisations.[9] It is also one of parity and recognising capacity. Empowering local leadership means enabling access and information capability that no international or regional actor can achieve. This is true in situations of insecurity as well as in remote areas with physical access challenges. With a strong understanding of local systems, circumstances, politics and culture, there is a better chance to address local nuances that fall through the cracks.

Local leadership is often the reason behind disasters that don't happen, addressing daily stresses and looking at long-term issues that funding cycles prohibit. Additionally, local leadership also has an increasingly important role to play in early detection of risks that could potentially go out of control, in early warning in increasing uncertainties, and in achieving Target E of the Sendai Framework.

2 Focussing attention on emerging health issuesand daily stresses

Too often, a focus on large-scale disasters mean vulnerabilities and daily stresses remain unaddressed. Emerging issues in particular include heat stress, air pollution and epidemics.

As the fourth hottest year on record, 2018 saw a record-breaking 220 million additional exposures to extremes of heat, coupled with corresponding increased vulnerability to heat across every continent. As a result of this and broader climatic changes, conditions are being created that increase the risk of disease and pandemics. 9 of the past 10 most suitable years for transmission of dengue fever have occurred since 2000.

Extreme heat is not just affecting health, but work and ways of life. In 2018, over

133 billion potential work hours were lost globally.[10] Recent sporting events in Qatar had athletes dropping out or running races at night due to the heat. Areas where housing patterns were never set up for heatwaves, like Japan, are having to re-think how they live. Australia saw two of its hottest years on record in 2017 and 2018; and has seen unprecedented wildfires this year. Therefore, it is an urgent need for the civil society to focus on preparing heat action plans at the city level or even sub-city level, as nature of housing stock might not be uniform across one city, to tackle this challenge.

Air pollution is also increasingly being recognised as a critical health issue around the world with Asia at the forefront. It contributed to almost 5 million deaths globally — nearly 1 in every 10 — in 2017, the fifth leading cause of mortality. Almost half of this came from just 2 countries – China and India – and four other Asian countries were among the ten with the highest air pollution mortality - Pakistan, Indonesia, Bangladesh and the Philippines.[11]

3 Protecting and enabling access to social infrastructure

Access to social infrastructure is not just about reducing risks; it is a fundamental human rights issue.

Lifeline infrastructure - schools, hospitals and community centres

Schools and hospitals are a common thread weaving across the region. This gives them the innate ability to serve as launch pads for disaster risk education, community social mechanisms and capacity building services. Yet, educational and medical facilities continue to be at risk – from unsafe buildings, from attacks and from lack of resources. Beyond the brick and mortar of these facilities, it is also the population attached to these lifeline infrastructure – teachers, health workers, etc. who face this risk while playing critical roles.

Building codes, where enforced, have yet to keep up with the changing disaster face. Where unprecedented is the norm, can looking at return periods of 1:25 or 1:50 be enough?

As displacement grows, getting children back to school with an education that will serve their future becomes even more challenging. It's not just about the buildings, but the curriculum and safe access. Re-thinking access to education will be a key issue in the coming times.

Access to housing, water and sanitation

56% of the people who live in informal settlements around the world are in the Asian region.[12] The quality and spread of the built environment have time and again influenced the extent of a disaster's impact. Not just on mortality and morbidity rates, but on secondary hazards. Poor habitat planning and access to basic services translate into protracted crises and chronic epidemiological concerns. Deeper and more invisible issues such as women's reproductive health, community mental health and children's development are directly impacted, beyond the rising medical bills. In fact, fetching or accessing water still consumes an inordinate amount of time for women across the region.

Common goods like forests and wetlands

Who owns the common goods and how are they defined? Green areas and forests have become battlegrounds between environmental and economic interests across the region.

Natural wetlands are in long-term decline around the world; shrinking at the rate of 1% per year. Between 1970 and 2015, inland and marine/coastal wetlands both

declined by approximately 35%. Yet, their importance cannot be overstated – as a carbon sink, to recharge groundwater and a bioshield.

In the Philippines, mangroves, reefs, and other natural systems prevent more than $1 billion in annual disaster losses. They reduce flooding to 613,000 people annually, 23% of whom live below the poverty line. It is estimated that without the remaining mangroves, flooding and damages would increase annually by approximately 25%.[13]

4 Supporting innovative ways to reduce risks

The same ways of working cannot solve the emerging problems, particularly with the levels of varied impacts being seen. Thinking outside the box, constantly innovating and simple ideas to make life safer have never been more necessary. This innovation is not just in products and processes of a workplan, but also within the sector's ways of working as well, looking at problems with a new lens.

Across the region, looking back and adapting traditional wisdom and indigenous knowledge is necessary. Building technologies that have withstood disasters which modern construction has not; water saving techniques; early warning signs; and the ability to co-habitat peacefully with nature.

At the same time, within at-risk communities, people are actually coping with amazing levels of ingenuity. These are actually local micro-innovations that can have the potential to be sustainable and scaled-up.

Part of this is a social enterprise model, supporting the entrepreneurial spirit within at-risk communities as opposed to delivering aid. While there are challenges, including ensuring market-based systems don't override humanitarian imperatives, there have already been successes. For example, a modular green wall that improves nutrition and helps beat the heat. Inspired by a resident of Korail, Dhaka's largest slum, it is now being scaled by innovators from the Korail for use by Rohingya refugees in Cox's Bazaar.

5 Investing in youth and children to build long-term resilience

The Lancet Countdown on Health and Climate Change for 2019 has a striking title: Ensuring that the health of a child born today is not defined by a changing climate. So, for the youth and children of today, this is no longer something that can be brushed aside. As seen across a number of risk issues, from environment to gender parity and democracy to gun control, youth-led movements are rising. The urge to 'do well while doing good' is also reflected in the massive number of social enterprises created and run by youth across the region.

Yet, over half of children today will be in jobs that are yet to be created. How do we help children build the skills for a world that doesn't yet exist? A world where increasingly empathy and ethics are being eroded.

6 Diversifying funding routes to meet humanitarian needs and sustain non-profits

Traditional funding routes are increasingly competitive and there is shortfall in the amounts needed. More protracted crises take the majority of available ODA humanitarian funding and just ten countries received 63% of all country-allocable humanitarian assistance in 2017.

It is estimated that this shortfall will continue to grow as the number of people requiring humanitarian assistance every year increases. Risk reduction measures are already underfunded – accounting for just 0.4% of international aid over 20 years (till 2013). Such measures and long-term sustainability of non-profits will thereby depend on diversifying to alternate sources.

Some of the emerging sources include:

- CSR funding/Private sector partnerships: Corporate social responsibility (CSR) is increasingly growing as an area to free up financing. The mandatory CSR law in India, for example, now allows disaster relief funding as one of its areas. However, private sector partnerships are not just about Corporate Social Responsibility. Traditional private sector tools like bonds are being leveraged to raise capital. An example is the Women's Livelihood Bond which has mobilized $8 million for microfinance institutions and social enterprises in Cambodia, the Philippines and Vietnam. It has a mix of public, private and philanthropic partners and is listed on the Singapore stock exchange. 385,000 women are expected to benefit over its four-year tenor.
- Impact Investments: Impact investing is the idea of looking at both financial as well as social returns within an investment. It has a broad scope of how environmental, social and governance factors (ESG) are integrated. It ranges from simply negative screening to actually making financial trade-offs in order to focus on issue areas. Civil society can have an increasingly important role, both in benefitting from the impact funding as well as giving input into defining ESG factors.
- Islamic Financing: Waqf (an endowment to a religious, educational or charitable cause), Zakat (a donation of 2.5% of annual earnings for the needy) and Sadaqah (ad-hoc charitable contributions) have always been central to Islamic social finance. Sukuk, or Islamic financial certificates similar to bonds, have grown to dominate the Asian market at the moment. Indonesia issued its first green sukuk through its Ministry of Finance in March 2018 and the five-year issuance raised US$1.25 billion. The country has also used Zakat to fund renewable energy projects in rural areas.

Yet, there are fears that as funding becomes increasingly market-based, those communities who aren't seen as a good 'investment' will be left out.

Along with diversifying funding sources, there is also a need to push for longer-term and more flexible funds, a key point agreed to in the Grand Bargain but not yet seen on ground. The types of risks that are emerging and the multi-pronged issues of slow-onset disasters cannot be addressed with restricted and short-term funds.

7 Leveraging new technologies for systemic solutions

The use of new technologies involving 'big data' is increasingly making strides in the humanitarian world as well. Essentially, big data refers to the analysis of very large data sets to reveal patterns, trends and associations. The data can come from a range of sources.

Established patterns of disasters are rapidly changing. The impacts are widespread. The sheer frequency, intensity and unpredictability mean that larger datasets and new ways of analysis are required in order to effectively respond and reduce risk. So artificial intelligence is being used for forecasting and analysing patterns of disasters. In fact, AI was used to map the damage and develop assessments post the Central Sulawesi earthquake in Indonesia in September 2018. The main benefit was the time saved, where inaccessible areas could still be

mapped. Aggregation of data points from social media apps is also being used as a tool to track population movement post a disaster, one of the factors that can help agencies decide where to deploy and when to begin reconstruction.

As the numbers of displaced grow, keeping track of people is also becoming a challenge where traditional tools cannot keep up. Digital databases are also being adopted mandatorily by governments. Biometric-based unique identification numbers are helping those with no other identification, also serving as a way to access social benefits. Technically, even in the wake of a disaster, if your papers are lost, this will continue to serve as your identification. The same idea is being looked at for displaced and refugee populations. However, data security and the risk of misuse continues to be high in both scenarios. Rohingya refugees in Cox's Bazaar, for example, feared that there would be a backlash from the Myanmar government, with many choosing not to be registered.

While privacy issues are the most well-known challenge, as AI develops and is used more extensively, a host of other issues will emerge. Already there are signs of built in biases of AI in other applications (including loan sanctions). When it comes to humanitarian action, there is a challenge that this aggregated data will miss specific nuances and ground realities, disadvantaging the most marginalised populations.

Finally, as use of traditional communication tools such as TV and newspapers declines, constantly evolving tools (social media, online platforms) are bringing new and faster ways to reach communities. The two-way mediums are also giving a voice to those who may not have had one. It is allowing for crowdsourced data, as an organising platform and as a vehicle for behaviour change.

Yet, at the same time, it risks the spread of misinformation and 'echo chamber' tunnel vision. There are also increasing worried of its use to incite violence and supress dissent.

8 Collaborating to address blurring lines between geo-politics and disaster risks

Environmental risks and disasters are increasingly being politicised. As climate change impacts intensify, the debates on trade-offs between economic growth and environmental protection are growing as well. Increasingly nationalist governments are using scarce resources as geo-political tools. Yet, for trans-boundary risks, particularly along river basins and the melting glaciers of the third pole, increased collaboration is the only way forward.

The third pole (the massive store of snow and ice in the Hindu Kush Himalayas) is the origin of ten major rivers. It covers eight countries – Afghanistan, Bangladesh, China, India, Myanmar, Nepal and Pakistan. 240 million people who live in the mountains and an overall 1.9 billion people (2015 estimates) are dependent on its water. The melt will not only have an impact on health and food security, but on increased disaster risk.[14]

There is already an example of this working on a micro-level for flood warnings between Nepal and Bihar in India; a river monitoring and early system between upstream and downstream villages led by civil society.

While it is important to participate in these evolving areas of engagement, it is as important to continue to do some of the work that is becoming increasingly relevant. E.g. investing in assisting local communities in creating and maintaining social ties like Japan has done with several local programs as social ties 'did the most' for the elderly and communities with fewer material and educational resources during the 2011 Tohoku earthquake and tsunami and helped save lives[15].

REFERENCES AND RESOURCES

1. Climate Central. 2019. FLOODED FUTURE: Global vulnerability to sea level rise worse than previously understood. Retrieved from https://climatecentral.org/pdfs/2019CoastalDEMReport.pdf
2. EM-DAT: The Emergency Events Database - Universite catholique de Louvain (UCL) – CRED. Accessed at https://www.emdat.be/
3. United Nations, Department of Economic and Social Affairs, Population Division (2019). World Population Prospects 2019 Highlights. Retrieved from https://population.un.org/wpp/Publications/Files/WPP2019_10KeyFindings.pdf
4. United Nations, The Economic and Social Commission for Asia and the Pacific (ESCAP). 2019. The Disaster Riskscape Across Asia-Pacific. Retrieved from https://www.unescap.org/sites/default/files/publications/Asia-Pacific%20Disaster%20Report%202019_full%20version.pdf
5. Development Asia, Understanding the Risks of Loss and Damage from Climate Change, Retrieved from: https://development.asia/explainer/understanding-risks-loss-and-damage-climate-change
6. United Nations, The Economic and Social Commission for Asia and the Pacific (ESCAP). Asia and the Pacific SDG Progress Report 2019. Retrieved from https://www.unescap.org/sites/default/files/publications/ESCAP_Asia_and_the_Pacific_SDG_Progress_Report_2019.pdf
7. Internal Displacement Monitoring Centre. Retrieved at http://www.internal-displacement.org/database/displacement-data
8. CIVICUS. State of Civil Society Report 2019. Retrieved from https://www.civicus.org/documents/reports-and-publications/SOCS/2019/state-of-civil-society-report-2019_executive-summary.pdf
9. Development Initiatives. Global Humanitarian Assistance Report 2019. Retrieved from https://reliefweb.int/report/world/global-humanitarian-assistance-report-2019
10. The 2019 report of The Lancet Countdown on health and climate change: ensuring that the health of a child born today is not defined by a changing climate. Watts, Nick et al. The Lancet, Volume 394, Issue 10211, 1836 - 1878
11. Health Effects Institute. 2019. State of Global Air 2019, www.stateofglobalair.org.
12. https://unstats.un.org/sdgs/report/2019/goal-11/
13. World Bank WAVES Partnership. Valuing the Protection Services of Mangroves in the Philippines. Retrieved from https://reliefweb.int/sites/reliefweb.int/files/resources/117757-REVISED-Mangrove-Protection-Services-V2-0727.pdf
14. P. Wester, A. Mishra, A. Mukherji, A.B. Shrestha (eds) (2019). The Hindu Kush Himalaya Assessment – Mountains, Climate Change, Sustainability and People, Springer Nature Switzerland AG, Cham.
15. Ye M. & Aldrich D.P., Substitute or complement? How social capital, age and socioeconomic status interacted to impact mortality in Japan's 3/11 tsunami, SSM - Population Health (2019), doi: https://doi.org/10.1016/j.ssmph.2019.100403

World Economic Forum (January 2013). The Future Role of Civil Society. Accessible at http://www3.weforum.org/docs/WEF_FutureRoleCivilSociety_Report_2013.pdf

World Economic Forum. The Global Risks Report 2019 14th Edition. Retrieved from https://www.weforum.org/reports/the-global-risks-report-2019

United Nations, The Economic and Social Commission for Asia and the Pacific (ESCAP). Opportunities for Regional Cooperation in Disaster Risk Financing. Retrieved from https://reliefweb.int/sites/reliefweb.int/files/resources/ESCAP_Opportunities_Regional_Cooperation_DRF_2018.pdfaraj, R. and Bagyaraj, M. (2017) Study and Analysis of Chennai Flood 2015 Using GIS and Multicriteria Technique. Journal of Geographic Information System, 9, 126-140. https://doi. org/10.4236/jgis.2017.92009

About SEEDS:

SEEDS (Sustainable Environment and Ecological Development Society) is a not-for-profit organisation that enables community resilience through practical solutions in the areas of disaster readiness, response and rehabilitation.

Since 1994, the organization has worked extensively on every major disaster in the Indian subcontinent – grafting innovative technology on to traditional wisdom. It has reached out to families affected by disasters and climate stresses; strengthened and rebuilt schools and homes; and has invariably put its faith in skill building, planning and communications to foster long-term resilience. SEEDS is also India's first agency to be certified for the global Core Humanitarian Standards – an international certification system for quality and accountability in humanitarian response.

SEEDS completed 25 years of outstanding service to humanity in 2019, and is re-anchoring its approach to building resilience through innovation. It continues to empower the most vulnerable across Asia to build a better future.