



Practical Lessons for Recovery from the COVID-19 Pandemic

Principles for Recovery



Consultative Version Dec 2020



This is the consultative edition of this publication. The International Recovery Platform (IRP) welcomes comments and inputs, including additional case studies for consideration on this publication. Feedback may be submitted until 31 March 2021. IRP also welcomes readers to share stories or voices on how this publication is used in practice. Please submit comments and inputs by e-mail to [publications\[at\]recoveryplatform.org](mailto:publications@recoveryplatform.org).

Copyright© International Recovery Platform 2020
Consultative edition first published December 2020

Disclaimer: The findings, interpretations, and conclusions expressed in this document do not necessarily reflect the views of IRP members, observers, partners, and governments. The information and advice contained in this publication are provided as general guidance only. Every effort has been made to ensure the accuracy of the information. This policy brief may be freely quoted but acknowledgment of source is requested.

IRP was established following the Second UN World Conference on Disaster Reduction in Kobe, Hyogo, Japan, in 2005 to support the implementation of the Hyogo Framework for Action (HFA) by addressing the gaps and constraints experienced in the context of post-disaster recovery. After a decade of functioning as an international source of knowledge on good recovery practice, IRP has been focusing on a more specialized role as an "international mechanism for sharing experience and lessons associated with build-back-better". In the context of the Priority Four of the Sendai Framework for Disaster Risk Reduction 2015-2030, IRP seeks to strengthen its global position as a recognized provider of information, including lessons and best practices in the field of build-back-better in recovery, rehabilitation, and reconstruction. Its vision, mission, and goals reflect this specific focus.

Practical Lessons for Recovery from the COVID-19 Pandemic was developed by the International Recovery Platform Secretariat Team, Yuki Matsuoka, Paul Rosenberg, Noralene Uy, Akira Inaba, with the support of external consultants Damon Coppola, Soenke Ziesche, and Ranit Chatterjee. The IRP Secretariat would like to thank the IRP Steering Committee Members for their substantive contributions to this publication, in particular the Asian Development Bank, United Nations Development Programme, UN Environment Programme, United Nations Educational, Scientific and Cultural Organization, United Nations Office for Disaster Risk Reduction, the World Bank, the World Health Organization, Hyogo Prefectural Government, and to the Cabinet Office of Japan for its financial support to the International Recovery Platform.

IRP Secretariat is coordinated by the UNDRR Office in Japan.

Cover Photo (from left to right) "Two women textile worker performing a quality control together on the end-product, with her protective masks for COVID-19" by Kivanc Ozvardar/ILO, licensed under CC BY-NC-ND 2.0; "UNICEF staff joined UN staff in Ethiopia in planting trees as part of the countries Green Legacy initiative in Yeka Kifle by NahomTsfaye/UNICEF, licensed under CC BY-NC-ND 2.0; "IMG_6440: Saleha Begum, 45, lives in Patarkhola village of Ramzan Nagar union at Shyamnagar upazila in Satkhira" by UN Women Asia and the Pacific, licensed under CC BY-NC-ND 2.0.

Principles for Recovery

Table of Contents

List of Boxes.....	iv
Acronyms.....	vi
Introduction	1
An unprecedented pandemic crisis	1
An unprecedented crisis will demand an unprecedented recovery.....	1
8 Guiding Principles for Recovery	1
Principle One: Recovery Must Begin During the Ongoing Response	3
Early actions towards recovery.....	3
Evidence-based decision making.....	3
Providing social protection.....	3
Multi-sector and multi-stakeholder collaboration.....	3
Revisiting policies and plans.....	4
City-level actions.....	5
Initiating recovery during response.....	5
Building recovery on existing frameworks	5
Targeting vulnerable and marginalized populations	6
Investing in pandemic preparedness	6
Science, technology and innovation	6
Recovery financing.....	6
International collaboration.....	7
Principle Two: Inclusive, People-Centred Recovery To Leave No One Behind.....	8
Purpose of recovery inclusivity	8
Entry points to enable inclusive, people-centred recovery.....	9
Social protection.....	10
Economic recovery	10
Data management	10
Science, technology and innovation	11
Communication	11
Participation	11
Partnerships	11
Mainstreaming inclusion in policy and plans.....	12
Principle Three: Transparent Evidence-Based Decision-Making	13
Challenges to evidence-based decision-making	13
Information management and sharing.....	13
Misinformation, disinformation, and infodemics.....	13
Risk perceptions and preconceptions.....	14
Implications for risk governance	14
Trust.....	14

Accountability	15
Transparency and anti-corruption	15
Participation	15
Coordination and partnership	15
Risk communication	15
Science, technology and innovation	15
Principle Four: Build Back Better and Greener	17
Key dimensions for building back better and a greener future	17
Economic dimension	17
Environmental dimension	19
Physical dimension	19
Psychosocial dimension	20
Social dimension	20
Institutional mechanism for disaster risk governance	21
Principle Five: Preserve Development Gains	23
SDGs as a comprehensive framework for a sustainable recovery	23
Strengthening the monitoring and evaluation system	23
Temporal mapping of the progress in each goal and sub-goals (pre- and during/ post COVID-19)	24
Synergizing efforts across different goals	24
The central role of governments in executing recovery strategies	25
Acknowledging and addressing the root causes	25
Lifting up the most vulnerable	25
Risk-informed policy making and budgeting	25
Investing in research and innovation for building back faster while boosting SDG progress	26
Principle Six: Greater Regional and Global Solidarity	27
Enhancing COVID-19 recovery through regional and global solidarity	27
Coordinated health response and recovery	27
Recovery planning on a regional or global scale	28
Collaborative data and knowledge management for promoting science, technology, and innovation	29
Regional and global financial cooperation	29
Facilitated trade, movement of goods, and movement of people across borders	30
Principle Seven: Institutionalize Effective Coping Mechanisms	31
Effective coping strategies in the COVID-19 response	31
Social protection schemes	31
Online technologies	31
Community-led actions	31
Urban food systems	31
Do-It-Yourself manufacturing	32
Collaboration with civil society, private sector and academia	32
Mechanisms for institutionalizing effective coping strategies	32

Social protection.....	32
Digital transformation	33
Land use and spatial planning	33
Localization	33
Urban agriculture.....	33
Partnership	34
Volunteerism	34
Social innovation	34
Principle Eight: Effective Risk Communication	35
Essentials of risk communication	35
Collaboration and coordination	35
Policy coordination	36
Community engagement.....	36
Last mile access.....	36
Local contextualization	37
Reassurance and establishing trust	37
Ensuring clarity and countering misinformation.....	37
Generating solidarity.....	37
Transparency	37
Communicating uncertainty.....	37
Knowing your audience.....	38
Strategic targeting.....	38
Inclusivity	38
Monitoring and evaluation.....	38
Capacity building	38
References.....	39

List of Boxes

Box 1: National Business Compact on Coronavirus in Kenya	4
Box 2: Hyogo Prefecture evacuation guidelines during COVID-19 in Japan.....	4
Box 3: Tsunami Evacuation Guidelines in Indonesia during COVID-19.....	4
Box 4: City of San Antonio COVID-19 Open Data	5
Box 5: Cascading risks from climate extremes and COVID-19 in South Asia	6
Box 6: ADB Contingent Disaster Financing Program for Cook Islands.....	7
Box 7: Addressing and preventing domestic violence in Mongolia during the COVID-19 crisis	8
Box 8: Inclusion, participation and equity in the 2030 Agenda for Sustainable Development.....	9
Box 9: Local data needs for planning pandemic response and recovery in informal settlements	10
Box 10: Leaving no one behind in COVID-19 recovery.....	11
Box 11: Multi-stakeholder partnership to coordinate response and recovery across fragmented systems in Syria and Lebanon	11
Box 12: Trusted data sharing framework in Singapore.....	13
Box 13: COVID-19–related infodemic and its impact on public health	14
Box 14: Embedding trust into COVID-19 recovery.....	14
Box 15: Paraguay’s InvestmentMap + ModuleCOVID-19 tracks resources for the COVID-19 emergency ...	15
Box 16: Principles for science advice	16
Box 17: Germany’s COVID-19 stimulus emphasizes low-carbon investments	18
Box 18: Cyprus’s integration of climate policies in COVID-19 economic recovery packages.....	18
Box 19: How to Build Back Better after the COVID-19 crisis in Fiji.....	19
Box 20: African Union Commission to advance renewables in response to COVID-19.....	19
Box 21: Repurposing streets and infrastructure during COVID-19 response and recovery	20
Box 22: New Zealand’s COVID-19 Psychosocial and Mental Wellbeing Recovery Plan	20
Box 23: Philippines efforts at expanding social protection post-Typhoon Haiyan	21
Box 24: Carbon tax for supporting nature climate solutions in Costa Rica and Colombia.....	25
Box 25: Systematic investment today is critical for better preparedness and response tomorrow in India	26
Box 26: UN COVID-19 Response and Recovery Fund.....	26
Box 27: Pacific Public Health Surveillance Network	28
Box 28: Africa Pandemic Response Exchange Platform (APREX).....	28
Box 29: Need for vaccine management - Lessons from H1N1 Influenza Vaccine Management	28
Box 30: C40 Global Mayors COVID-19 Recovery Task Force and Agenda for Green and Just Recovery	29
Box 31: cOAlition S	29
Box 32: COVID-19 Solidarity Response Fund	30
Box 33: Joint Statement of Asia-Pacific Economic Cooperation (APEC)	

Ministers responsible for trade on COVID-19	30
Box 34: Social Protection Measures in Asia-Pacific	31
Box 35: Local Governments' Actions on Urban Food Systems in Latin America.....	32
Box 36: DIY in Benin, Africa.....	32
Box 37: Latin America and the Caribbean Regional Agenda for Inclusive Social Development.....	33
Box 38: Slow Streets Movement Make Cities More Bike-friendly in USA	33
Box 39: Social Media Campaign in Sri Lanka with UN	36
Box 40: CEPREDENAC Online Platform for Coordination.....	36
Box 41: COVID-19 Risk Adjusted Strategy- South Africa National Government Coronavirus Information Page	36
Box 42: Nigeria's effort on last mile access.....	36
Box 43: Government of Uganda and Nigeria's Private Sector Communication Resources.....	37
Box 44: Open Data Source for collaboration with Civil Society in Haiti.....	37

Acronyms

ADB	Asian Development Bank
APEC	Asia-Pacific Economic Cooperation
APREX	Africa Pandemic Response Exchange Platform
ASEAN	Association of Southeast Asian Nations
BPBD	Badan Penanggulangan Bencana Daerah
CDF	Contingent Disaster Financing
CDRI	Coalition for Disaster Resilient Infrastructure
CEPREDENAC	El Centro de Coordinación para la Prevención de los Desastres en América Central y República Dominicana
COVID-19	Coronavirus disease 2019
CSOs	Civil Society Organizations
DIY	Do it yourself
ECA	United Nations Economic Commission for Africa
ECLAC	United Nations Economic Commission for Latin America and the Caribbean
FAO	Food and Agriculture Organization of the United Nations
GFDRR	Global Facility for Disaster Reduction and Recovery
GIS	Geographic Information System
ICT	Information and Communications Technology
IFRC	International Federation of Red Cross and Red Crescent Societies
IHR	International Health Regulations
IISD	International Institute for Sustainable Development
ILO	International Labour Organization
IMF	International Monetary Fund
IOM	International Organization for Migration
IRENA	International Renewable Energy Agency
IRP	International Recovery Platform
ITU	International Telecommunication Union
LDCs	Least Developed Countries
M&E	Monitoring and Evaluation
NASA	National Aeronautics and Space Administration
NDMA	National Disaster Management Authority
NGO	Non-governmental Organization
OECD	Organisation for Economic Co-operation and Development
PAHO	Pan American Health Organization
PPE	Personal Protective Equipment
PPHSN	Pacific Public Health Surveillance Network
RCCE	Risk Communication and Community Engagement
SARS	Severe acute respiratory syndrome
SARS-CoV-2	Severe acute respiratory syndrome coronavirus 2
SDGs	Sustainable Development goals
SIDS	Small Island Developing States
SPC	The Pacific Community

STI	Science Technology and Innovation
UN	United Nations
UNAIDS	Joint United Nations Programme on HIV and AIDS
UNCTAD	United Nations Conference on Trade and Development
UNDESA	United Nations Department of Economic and Social Affairs
UNDGC	United Nations Department of Global Communications
UNDP	United Nations Development Programme
UNDRR	United Nations Office for Disaster Risk Reduction
UNECOSOC	United Nations Economic and Social Council
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNGA	United Nations General Assembly
UN-Habitat	United Nations Human Settlements Programme
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
UNSDG	United Nations Sustainable Development Group
USA	United States of America
USAID	United States Agency for International Development
WEF	World Economic Forum
WFP	World Food Programme
WHO	World Health Organization

Introduction

An unprecedented pandemic crisis

The World Health Organization (WHO) declared a Public Health Emergency of International Concern for the 2019 novel coronavirus on 30 January 2020. Since the SARS-CoV-2 virus was first recognized in December of 2019, it has spread across the world. In March 2020, the WHO assessed that the outbreak had become a global pandemic – the first pandemic ever assessed to have been caused by a coronavirus (World Health Organization 2020a). In the first year of the pandemic, the virus has infected more than 70 million people. More than 1.5 million lives lost have been attributed to coronavirus disease 2019 (COVID-19), the disease caused by the SARS-CoV2 virus (World Health Organization 2020i).

The pandemic has become much more than a public health crisis. The pandemic has had severe socioeconomic consequences. In the immediate term, global economic activity has stalled, and has led to the greatest global economic downturn in a century. In the longer-term, the pandemic's socioeconomic consequences are likely to outlast the pandemic, particularly for the most vulnerable, disadvantaged groups that have suffered disproportionately from the impacts of the pandemic (UNCTAD, 2020). The pandemic threatens to unravel decades of development progress, and to derail global prospects for achieving the Sustainable Development Goals by 2030.

Simultaneously, countries around the world are being forced to confront the challenges of managing compound risks from natural hazards and the COVID-19 pandemic. Since the onset of the pandemic, countries have had to deal with both COVID-19 and natural hazards such as cyclones in India and the Pacific, floods in Japan and Vietnam, heatwaves in the United States and Europe, among many others. Climate-related hazards threaten to exploit many of the same vulnerabilities, amplifying disaster risk and its potential impacts as the public health emergency continues.

An unprecedented crisis will demand an unprecedented recovery

The pandemic and the unprecedented, wide-ranging severity of its consequences will demand an unprecedented recovery. Countries and communities have grappled with the challenges of initiating socioeconomic recovery, as they continue to struggle with containing the spread of the virus and minimizing loss of life in a pandemic with an uncertain end. Even as the prospects of therapies and vaccines against the virus begin to become a reality, they will have to continue to navigate a

challenging path toward recovery, while managing health and safety concerns, and the threat of and potential impacts from other hazards. Countries and communities will have to not only prepare to recover and build back better from the pandemic, but also to address compound risks.

Governments and communities must also plan for a longer-term, sustainable recovery. They have a unique opportunity to do so. Unlike sudden-onset disasters, the pandemic crisis will have unfolded over the course of more than a year by the time the threat of the virus has passed. They have an opportunity to invest time and resources in rigorously assessing needs, forming the institutions, policies, and mechanisms needed to finance recovery and to engage all stakeholders in recovery planning. At a global scale, solidarity and collaboration are required to address the exposed systemic risks and underlying vulnerabilities in today's connected societies.

Priority Four of the Sendai Framework for Disaster Risk Reduction 2015-2030 calls on governments to build back better in recovery from disasters¹. It represents a global consensus view that recovery presents an opportunity to not only restore what was lost, but to build greater resilience and even to make progress across the development sphere. Importantly, it also presents an opportunity to reduce disaster risk as societies recover, rebuild, and rehabilitate.

There has perhaps never been a more pressing mandate to build back better than from this pandemic crisis. On its way to becoming a global socioeconomic catastrophe, the pandemic has exposed and exploited vulnerabilities and inequalities that have been at the root of much of the virus' most severe and disproportionate consequences. Preventing future outbreaks from becoming pandemics, and preventing future shocks from causing the scale and scope of damage across the development spectrum, will depend on addressing these root vulnerabilities in recovery. It is not just a moral imperative to do so, it is necessary to ensure the durability of recovery and to build resilience to future global shocks.

8 Guiding Principles for Recovery

The global nature of this pandemic and the severity of its consequences demands that every country plan for recovery and building back better. Every country and community will have had its own experience with this pandemic, and shall have its own unique challenges and enablers for recovery. The heterogeneity of experiences and circumstances defy cookie cutter approaches and demand tailored recovery strategies. However, as in previous disasters, there are broadly applicable disaster recovery tools and guidelines, and a wealth of lessons and evidence from previous disaster recovery experiences that can be adapted and applied by any recovering community to the COVID-19 crisis.

This publication offers a set of guiding, action-oriented principles and practical cases to support each of these recovering communities as they plan and implement recovery from this crisis. The principles focus on key cross-cutting issues for recovery

¹ It is also notable that in 2015 UN Member States extended the definition of risk to include biological hazards when they adopted the Sendai Framework for Disaster Risk Reduction 2015-2030 at the Third World Conference on Disaster Risk Reduction. This was a result of a push from countries which had experienced Ebola, MARS and SARS

such as building back better and greener, inclusive and people-centred recovery, and preserving development gains, among others. It is derived from this wealth of experience, tools, and guidance for disaster recovery. It follows in the tradition of the International Recovery Platform's Guidance Notes on Recovery². As such, it offers a roadmap of options to help guide recovery efforts, based on applied disaster recovery experience, and established methods and evidence. It is the third in a series of publications from the International Recovery Platform to support recovery from the pandemic. The first in the series, *Applying IRP Disaster Recovery Tools and Guidelines to Pandemic Recovery*³, offered a compendium of relevant, existing disaster recovery tools that could be immediately mobilized and adapted toward recovery efforts. The second publication in the series, the *COVID-19 Recovery Policy Brief*⁴, offered readers an introduction to eight guiding principles for recovery, and nine key actions for governments. This publication builds on the *COVID-19 Recovery Policy Brief*, expanding on the eight guiding principles and bringing previous recovery knowledge, experience, and emerging practices from the COVID-19 crisis to support recovery. It shall be followed by a fourth publication, expanding on the nine key government actions highlighted in the *COVID-19 Recovery Policy Brief*.

This publication was produced by the International Recovery Platform (IRP), a global partnership working to strengthen knowledge, and share experiences and lessons on building back better in recovery, rehabilitation, and reconstruction. IRP is a joint initiative of United Nations organizations, international financial institutions, national and local governments, and non-governmental organizations engaged in disaster recovery, and seeking to transform disasters into opportunities for sustainable development.

2 See the IRP Guidance Notes on Recovery series: <https://bit.ly/3oOYydz>

3 <https://bit.ly/3oOZXqv>

4 <https://bit.ly/3qU45Yb>

Principle One: Recovery Must Begin During the Ongoing Response

Introduction

Given the uncertainty of when the pandemic will end, the high probability of multiple waves, and the extent of its socio-economic impacts, transitioning from response to recovery needs to be undertaken with the ongoing response. Recovery entails the restoration or improvement of livelihoods and health, as well as economic, physical, social, cultural and environmental assets, systems and activities, of a disaster-affected community or society, aligning with the principles of sustainable development and 'build back better', to avoid or reduce future disaster risk (United Nations General Assembly 2016).

Planning for recovery should commence as soon as possible to take advantage of early recovery actions, and opportunities to mitigate further losses. Countries that have passed the peak of virus transmission can also provide insights and lessons for other countries that are still battling the pandemic. Short-term measures to address the health emergency and secure core public services will necessitate comprehensive policies to boost long-term growth, for example, by improving governance and the investment climate, and expanding investments in education and public health (World Bank, 2020a). For actions in the short-term to have long-term impacts, a comprehensive and interdisciplinary approach that facilitates an integrated cycle of prevention, risk reduction, preparation, response and recovery must be applied.



Photo Credit: "54158-002: Implementing a Rapid Emergency Supplies Provision (RESP) Assistance to Design a Sustainable Solution for COVID-19 Impact Areas in the National Capital Region, Through a Public Private Collaboration" by the Asian Development Bank, licensed under CC BY-NC-ND 2.0.

Early actions towards recovery

Effective responses to the pandemic have slowed spread of the virus, and have important implications for recovery. Among these are risk communication, strengthening of public health, transparent governance, and collaborative structures (Fakhruddin, Blanchard, and Ragupathy, 2020) as well as the following discussed below. These early actions influence longer-term actions towards comprehensive recovery.

Evidence-based decision making

As will be discussed in Principle Three, evidence-based decision-making allows for well-informed planning and decision making through the use of best available information in both the medium- and long-term (Young and Quinn, 2012). Data were pivotal in infection prevention and control. Information management was crucial in contact tracing and tracking movements, trends and profiles of risk groups. The use of technology, in particular, allowed governments to make informed decisions and implement scientific and targeted policies. A focus on enhanced information management, which includes also predictive analytics, through the use of technologies would be essential.

Providing social protection

For many countries, especially the Least Developed Countries (LDCs) and Small Island Developing States (SIDS), the lack of safety nets for a large majority of the population necessitated government interventions to prevent backsliding of development achievements and to spur economic activity. The provision of cash aid and other economic incentives by realigning budgets and/or obtaining new funds as well as enhanced social services to vulnerable groups enabled them to follow strict social measures while addressing basic needs. The timing and duration of the social protections, however, have been challenged because many mechanisms, beneficiary data, and government budgets were not in place in the beginning of the crisis. Since provision of social protection may need to continue for some time, it would be crucial to learn from early interventions to develop efficient systems that can provide social protection on time and until vulnerable groups are able to recover.

Multi-sector and multi-stakeholder collaboration

National governments endeavored to implement a whole-of-government and whole-of-society approach in the COVID-19 response and recovery. Various collaborative actions developed, for example, data analytics and research between science and health agencies and academia, food distribution by subnational governments in cooperation with civil society groups, and fund raising by both national and subnational governments with the private sector. To build back better, all sectors and stakeholders need to be able to contribute to appropriate strategies and measures. For example, the private sector can often innovate faster due to less bureaucratic structures, and provide a variety of solutions to address both health and economic challenges. Engaging the private sector in recovery planning can facilitate opening up of business opportunities, creating new positions and providing training, and shaping institutional frameworks in the short term and potentially attract investors in the long term (Signé, 2020). Understanding sectoral interdependencies would be critical as these would inform the areas where stakeholders can complement one another, and add value to initiatives building on

their area of focus and expertise (Rogers *et al.*, 2020).

Box 1: National Business Compact on Coronavirus in Kenya

The National Business Compact on Coronavirus is a public-private partnership between the government and businesses from different sectors created three days after the first COVID-19 case was identified in Kenya. The coalition, convened by the Marketing Society of Kenya, comprised of competing brands in the hygiene sector, Kenya Association of Manufacturers, Kenya Private Sector Alliance, Public Relations Society of Kenya, Amref Health Africa, Association of Practitioners in Advertising, SDG Partnership Platform, and the UN system in Kenya, supports government initiatives in addressing COVID-19. It seeks to accelerate local actions and share global best-practices among business networks. Among the activities undertaken are awareness-raising, interventions and innovations around handwashing; trainings of community health workers; youth empowerment; and using puppetry as a platform in teaching and communicating the wearing of masks.

Source: National Business Compact on Coronavirus (2020)

Revisiting policies and plans

The potential risk of cascading and compound disasters require the revisiting of policies and plans to evaluate and incorporate emerging lessons from COVID-19 (e.g. repurposing existing capacities, resources and tools; protecting responders) in order to manage recurring hazards effectively (see Box 2). The dual threat of biological hazards such as COVID-19 and climate-related disasters necessitated the examination of existing prevention and preparedness measures and addressing the challenges of response trade-offs and preparedness, compounded vulnerabilities of those most at-risk, coordination and collaboration as well as front-line workers' needs (UNDRR, 2020).

Box 2: Hyogo Prefecture evacuation guidelines during COVID-19 in Japan

Evacuation guidelines have been updated in consideration of infection prevention and control as well as of social distancing in the time of COVID-19.

In May 2020, the Government of Japan revised the Disaster Management Basic Plan at the meeting of the Central Disaster Management Council (Japan's national platform for DRR) which is headed by the Prime Minister. Among a number of revisions, there are two new elements related to COVID-19:

- 1) Considering the outbreak of the novel coronavirus in 2020, it is necessary to promote disaster prevention measures that incorporate the viewpoint of infectious diseases, such as controlling overcrowding of people at evacuation centers, and
- 2) Regarding measures against infectious diseases including the novel coronavirus, the departments in

charge of disaster prevention and the departments in charge of health and welfare cooperate with each other even during normal times (even before a disaster occurs), for response planning, including the use of hotels and inns when necessary, considering a case when there are infectious disease patients during a disaster.

In response to guidance from the national government, the Hyogo Prefectural Government updated its evacuation shelter operation guidelines as briefly described below.

Hyogo Prefecture's updated evacuation shelter operation guidelines integrate COVID-19 considerations with the aim of preventing disease outbreaks in evacuation shelters and easing fears of affected populations from taking safety actions in evacuation shelters. It describes organization and implementation with a timeline and focal points for municipal governments as well as promotes evacuation and shelter measures such as follows:

Phase 0: Preparation

1. Assess shelter capacity for prevention of infectious diseases
2. Ensure sufficient number of shelters
3. Keep separate room or dedicated shelter for persons with existing health conditions
4. Check required quantity, and prepare supply of essential and sanitary goods
5. Develop framework for adequate shelter operation
6. Make an announcement to citizens in advance

Phase 1: Evacuation

1. Provide adequate shelter
2. Focal point during evacuation advisory or evacuation order

Phase 2: Shelter operation

1. Setting up shelters
2. Accepting evacuees
3. Shelter operation
4. Healthcare for evacuees at home and other places

Phase 3: Close shelters

Sources: Central Disaster Management Council (2020), Hyogo Prefectural Government (2020)

Box 3: Tsunami Evacuation Guidelines in Indonesia during COVID-19

For tsunami evacuation in Indonesia special measures are implemented to prepare for community evacuation should an earthquake with tsunami potential occur during COVID-19. The Badan Penanggulangan Bencana Daerah (BPBD) and the local government need to review tsunami preparedness plans to reassess COVID-19 designated hospitals to ensure that they are safe from earthquake (location and building standards) and tsunami inundation, to prepare temporary and final evacuation locations, to develop protocols for social workers and to prepare the evacuation plan and health protocol. The government has adopted a policy of maintaining physical distancing and the use of masks, which should

be followed in addition to maintaining hygiene and cleanliness during evacuation. Thus, the BPBD and the community need to ensure the availability of clean water, soap, hand sanitizer, masks and medical kits in the temporary and final evacuation locations. The BPBD needs to ensure that the evacuation plan and health protocol are integrated into preparedness plans early on. An evacuation plan considering the classification of COVID-19 affected individuals is proposed below.

Patients under care): These are patients being treated in hospitals designated for COVID-19, which should not be located in areas with tsunami risk since moving these patients presents an additional risk of the virus being spread. The BPBD and the local government need to prepare special evacuation protocols (e.g., assigning the patients to the top-most floor of the hospital and separate from others, providing identification marks/ribbons, ensure availability of special equipment, among others) to evacuate patients and their medical workers if patients are treated in areas with tsunami risk.

Persons under observation: These are individuals who are ordered to do self-quarantine at home. The BPBD needs to identify the name and location of persons under observation living in areas with tsunami risk. At the evacuation center they should be identified with a special mark or ribbon, be located in an area separate from persons who are healthy and without symptoms and be informed of their evacuation location and route. Social workers need to be trained to provide support.

Person without symptoms: These are individuals without symptoms or clinical signs of COVID-19 but have a risk of contracting the virus. They can shelter in place but maintain physical distancing, wear masks and be self-reliant.

Source: IOTIC (2020)

City-level actions

Urban areas, which are central in the pandemic response due to the high concentration of COVID-19 cases, showed that urban preparedness is key. Focusing on (i) coordinated local plans to address health risks and impacts; (ii) risk communication and community engagement that encourage compliance with measures; (iii) locally-contextualized approaches to public health protocols, and (iv) access to healthcare services for COVID-19 and the continuation of essential services enabled city governments to respond effectively (World Health Organization 2020c). Moreover, current strategies in disaster risk reduction, such as use of science to understand risks, mobilization of existing disaster risk governance structures, utilization of existing disaster coordination mechanisms and community-level preparedness and response, contributed to lesser negative consequences (Djalante, Shaw, and DeWit, 2020).

Box 4: City of San Antonio COVID-19 Open Data

The city of San Antonio in Texas, USA, published a COVID-19 Open Data Portal, which provides links to

COVID-19 statistics, dashboards, and data in raw, machine-readable formats. The applications, maps, and dashboards provide Health Insurance Portability and Accountability Act-compliant, county-wide information on testing, hospital capacity, case data, and other health and capacity metrics that are monitored and updated daily. The public COVID-19 dashboards registered over three million hits in one week, with an average number of approximately 451,000 visits a day. The open data page, in particular, received nearly 20,000 visits two weeks after deployment, averaging over 1,500 visits per day.

Source: Open Government Partnership (2020)

Initiating recovery during response

While response and early recovery measures are ongoing, initiating the process of recovery planning for COVID-19 must be undertaken to develop programs for an integrated, cross-sectoral recovery that unites all stakeholders' efforts. The process will also enable governments to begin creating a recovery framework that would identify priorities, set strategies and policies, develop institutional structures and determine sources of financing. Building on early actions that facilitate the mitigation of disastrous consequences and support future recovery, governments can benefit by focusing on no-regrets options that will generate positive outcomes for the longer-term.



Photo credit: "IMG_5787: Cyclone Amphan devastated her home and adjacent surroundings. The Covid-19 pandemic forced her out of work. She received cash support from UN Women as a victim of Cyclone Amphan." by UN Women Asia and the Pacific, licensed under CC BY-NC-ND 2.0.

Building recovery on existing frameworks

The Sendai Framework for Disaster Risk Reduction, the Sustainable Development Goals (SDGs) and the Paris Agreement must inform and guide the recovery from COVID-19. In addition, the International Health Regulations, which guide efforts to improve national and global preparedness for future threats, and the WHO Health Emergency and Disaster Risk Management Framework, which applies an all-hazards risk management approach to strengthening country capacities, are essential in defining health-related actions for recovery (World Health Organization. 2005, 2019). These frameworks have associated strategies and policies already in place within countries, which could facilitate

pandemic recovery. As Principle Five shows, an understanding of SDG progress, particularly the interdependencies among the goals, provides a comprehensive framework for sustainable recovery. Aligning recovery efforts to these important frameworks can also provide a common ground for international collaboration and coherence in recovery.

Targeting vulnerable and marginalized populations

Vulnerable and marginalized populations, such as the elderly, children, women, persons with disability, informal workers, and migrant workers, among others, experience disproportionate impacts and have not been adequately given attention during response. Inequities further exacerbate the impact of COVID-19 on these vulnerable populations due to lack of social security and due to limited coping mechanisms at their disposal. The adverse impact on their socioeconomic status can push these groups into a dangerous downward spiral. There is an urgent need, therefore, to prioritize and to understand the vulnerability of individuals, communities and societies that would inform long-term recovery planning.

Investing in pandemic preparedness

Recovery can provide an opportunity for governments to invest in measures to ensure that future biological hazards are identified early on, and mitigation and preparedness measures are put in place. In addition, investments and advances made in COVID-19 can and should be sustained for longer-term preparedness (World Health Organization, 2020d). The risk to multiple sectors requires national and subnational governments to prepare for the complexity of a health emergency as well as its cascading and compounding risks. A renewed focus on addressing the systemic nature of risks and strengthening risk reduction actions for all hazards as well as cascading and compound disasters is critical and requires new approaches to strengthen disaster management systems in view of pandemics (Ishiwatari *et al.*, 2020). A multi-hazard integrated disaster risk management approach with high levels of disaster preparedness and accelerated disaster risk reduction across sectors will be required focusing on enhancing multi-hazard disaster preparedness, including revision of standard operating procedures and contingency plans, proactive actions to reduce vulnerability of at-risk groups to COVID-19 and other hazards, integrated risk governance, protection of responders and frontline workers, support to local actions as well as improving the model of international assistance (UNDRR, 2020a).

Box 5: Cascading risks from climate extremes and COVID-19 in South Asia

Every year, the monsoon season brings floods and droughts in South Asia. The convergence of climate extremes and the COVID-19 pandemic this year adds complexity and challenges in managing compound disasters as experienced with Cyclone Amphan in the Bay of Bengal, Cyclone Nisarga in the Arabian Sea, floods in Assam, India, and desert locusts in South-West Asia

in May and June 2020. The impacts of cascading climate risks in the midst of the COVID-19 pandemic can push more people into extreme poverty and lead to malnutrition and food insecurity in the region.

Enhanced preparedness to complex and cascading disaster risks necessitates risk-informed actions such as understanding risk profiles, and identifying hotspots where the risk of climate extremes and the pandemic converges. The WHO also emphasizes aligning existing preparedness and response plans and procedures for hazards and potential outbreaks of other diseases to COVID-19 preparedness and response plans (WHO, 2020c). Policy interventions should focus on:

- A. Protecting the most vulnerable from the cascading risks
 - Monitoring of climate conditions, pandemic evolution and early warning,
 - Risk informed response strategy.
- B. Building resilience of the most vulnerable
 - Reducing exposure to climate events and building climate resilience,
 - Capitalizing on regional cooperation,
 - Customizing local solutions,
 - Risk-informed social protection,
 - Scaling up index-based parametric insurance to target the most vulnerable.
- C. Towards building the resilient recovery
 - Investments in building resilience, and
 - Capitalizing on new opportunities to break the vicious circle of poverty, inequalities and disasters.

Source: UNESCAP (2020) and World Health Organization (2020d)

Science, technology and innovation

The COVID-19 response and early recovery generated novel technologies, engineering innovations and system connections, which need to be documented and validated during recovery. Writing comprehensive activity reports and developing actionable strategies can solidify lessons learned to advance the use of science, technology and innovation (STI) in longer term recovery (Barnett *et al.*, 2020). Building on these solutions, the potential of STI can be explored to provide new knowledge, resources and tools in recovery from pandemics.

Recovery financing

Financing COVID-19 response and recovery has forced governments to reallocate tight budgets and to search for supplementary funding. At the same time, government revenues have been reduced due to disrupted economic activity that have lowered productivity, increased inflation, reduced purchasing power and decreased trade. Sources of recovery financing need to be identified—both domestic and external—for recovery activities to be implemented rapidly. These funds should be allocated based on recovery priorities, and mechanisms should be put in place to manage and track them.

Further, the global effort to mobilize financing for developing countries, although underway, must be accelerated (Parker, 2020). Multilateral solutions are needed to address underlying fragilities and avoid catastrophic economic failure and social impacts.

Box 6: ADB Contingent Disaster Financing Program for Cook Islands

The Cook Islands is among the South Pacific economies that are heavily tourism-dependent and is experiencing a huge downturn. The closure of all ports to any arrivals has put a stop to the tourism industry, directly impacting trade flows, while also affecting construction activity. The Government of the Cook Islands has drawn down on a NZ\$15.7 million (US\$10.3 million) policy-based loan from the Asian Development Bank's (ADB) Disaster Resilience Program (Phase 2) to help the economy in the face of the collapse in tourism and respond to emerging challenges. The second phase of the contingent disaster financing (CDF) program for the Cook Islands was approved in December 2019 to help manage the country's fiscal risk from disasters triggered by natural hazards. The scope of CDF programs was extended on 13 April 2020 to include health-related emergencies, allowing for the release of funds in response to COVID-19.

Source: Asian Development Bank (2020a)

International collaboration

A large-scale, coordinated response and recovery, informed by the best available evidence, can transform systems and structures to strengthen societal resilience (UN DESA, 2020e). From the global supply chain to the development of a vaccine, international cooperation of governments and industries would be crucial in ensuring that tools are available and responses are appropriate leading towards long-term recovery. Specifically, international collaboration can take the form of coordinated efforts or coalitions on recovery in health, science, technology and innovation, recovery financing, trade and movement of people as discussed in Principle Six.

Summary

Early actions in response to COVID-19 provide insights to the strategies and measures that are effective and could be carried over and strengthened during recovery. Among these are evidence-based decision making, provision of social protection, multi-sector and multi-stakeholder collaboration, revisiting policies and plans as well as city-level actions. Building on these, the considerations in initiating recovery during response include building recovery on existing frameworks, targeting vulnerable populations, investing in pandemic preparedness, recovery financing, international collaboration and STI.

- COVID-19 recovery should be made concurrent with the response to take advantage of early recovery actions and opportunities to mitigate further losses.
- Lessons learned during response need to be solidified to inform recovery planning and strategies.
- The dual challenges of COVID-19 and climate-related

hazards entail the review of prevention and preparedness policies and measures.

- Focusing on reducing the vulnerability of at-risk groups and marginalized communities is necessary to mitigate the negative impacts of cascading and compound risks.

Principle Two: Inclusive, People-Centred Recovery To Leave No One Behind

Introduction

The COVID-19 pandemic poses unique challenges for the most vulnerable and marginalized groups, who often lack access to essential health, education and sanitation services as well as employment and livelihoods. For people living with vision, hearing, and cognitive disabilities, information on the virus may not be easily accessible. Older persons who live in developing countries, especially those in fragile, conflict, and violence settings; and those who experience multiple and intersecting forms of discrimination face increased risks due to poor access to healthcare and other social services, including social protection (UN DESA, 2020b). For women and girls school closures and confinement measures increase the burden of unpaid domestic work, which reduce the time available for work, leading to permanent exit from the labour market or education (Copley *et al.*, 2020). In addition, they are at greater risk to increased gender-based violence especially those living in poverty and from socially excluded and stigmatized groups (e.g. indigenous people, migrants, person with disability or displaced women and girls) due to discrimination and inequality as well as limited access to information, services, resources and justice (UN Women, 2020). In this light, the dimensions associated with gender including unemployment, care duties and associated social inequity need to be considered in recovery (Oertelt-Prigione, 2020).



Photo Credit: "COVID-19 emergency response activities, Shahjahanpur, Dhaka" by Fahad Abdullah Kaizer/UN Women, licensed under CC BY-NC-ND 2.0.

Further, refugees and internally displaced people in cramped living conditions in camps and camp-like settings, as well as urban slums are vulnerable due to many factors, such as nutrition and health status, access to sanitation, health care and information, availability of support networks as well as language and other social and cultural barriers (ICRC & IFRC, 2019). For indigenous peoples who face widespread stigma and discrimination and have higher rates of communicable and non-communicable diseases, higher mortality rates as well as lower life expectancies, COVID-19 increases their risk because of mal- and under-nutrition, poor access to sanitation, lack of clean water as well as inadequate healthcare services (Lane, 2020). Lastly, migrants, whose access to healthcare and social protection is limited, are affected by border closures, mobility restrictions as well as increase in unemployment (International Labour Organization, 2020b; International Organization for Migration, 2020).

The pandemic has exploited and widened pre-existing inequities, creating disproportionate impacts on the most vulnerable and marginalized groups as well as longer-term health and welfare impacts. It has also exposed an association between race, ethnicity, culture as well as socioeconomic status and health outcomes (Yaya *et al.*, 2020).

Box 7: Addressing and preventing domestic violence in Mongolia during the COVID-19 crisis

COVID-19 has had a strong impact on domestic violence in Mongolia. In the capital city of Ulaanbaatar, police records indicated a 63% increase in reported cases from 1,900 during the first quarter (Q1) of 2019 to 3,100 during Q1 2020. Most of these cases included physical violence (77%), with women as victims (93%), and were committed in a household setting (90%). Police hotlines reported a 19% increase in calls, and nongovernment-run helplines reported a 30% increase during this period. Reduced mobility and social distancing measures have resulted in victims of domestic violence having less access to support and counselling. Many are likely forced to remain at home with perpetrators. Nonetheless, the number of victims of domestic violence requesting shelter services increased by more than 50% from about 600 victims during Q1 2019 to more than 910 during Q1 2020. Urgent responses, including emergency services, medical and psychological assessments, and immediate shelter options are required for domestic violence survivors who suffer serious physical and mental health consequences. As demand soars, shelters and one-stop service centres nationwide are under strain.

ADB partnered with the Government of Mongolia to respond to the gender impacts of COVID-19 with the aim of mitigating negative consequences on women and the most vulnerable, particularly domestic violence. It will also maintain critical response mechanisms for domestic violence, and enhance preventive action by supporting domestic violence response operations, increasing shelter capacity, and providing prevention awareness and virtual counselling support services.

Source: Asian Development Bank (2020b)

Purpose of recovery inclusivity

The more a person is excluded, the more challenging the recovery. Exclusion "involves the lack or denial of resources,

rights, goods and services, and the inability to participate in the normal relationships and activities available to the majority of people in a society, whether in economic, social, cultural or political arenas” (Bailey, Fahmy and Bradshaw, 2017). This presents challenges for recovery because the lack of access to resources and the inability to participate mean not being able to benefit from the recovery process and not achieving resilience and equity goals. Recovery inclusivity is about creating equal opportunities through the removal of barriers as well as about understanding and addressing unequal practices and structures (Koistinen and Mortlock, 2020). An inclusive, people-centred approach to recovery is rooted in the principles of the SDGs and the commitment to leave no one behind. It engages the whole of society and all sectors in building back better by identifying and considering the needs, challenges, and strengths of each vulnerable group in the design and implementation of recovery programs to achieve equitable outcomes.

According to the Sendai Framework for Disaster Risk Reduction, “Governments should engage all stakeholders, including women, children and youth, persons with disabilities, poor people, migrants, indigenous peoples, volunteers, the community of practitioners and older persons in the design and implementation of policies, plans and standards.” Recovery inclusivity thus provides an opportunity for vulnerable groups to co-design actions, as well as leverage citizen-based initiatives for a more meaningful recovery that will allow them to become autonomous and self-sufficient. An inclusive, people-centred approach would be required to successfully defeat COVID-19 because the virus can only be contained by not leaving groups of the population behind (UNESCO, 2020b).

Box 8: Inclusion, participation and equity in the 2030 Agenda for Sustainable Development

Main text: Inclusion, Participation and Equity

A revitalized Global Partnership for Sustainable Development...focused in particular on the needs of the poorest and most vulnerable and with the *participation* of all countries, all stakeholders and all people... (Preamble)

Between now and 2030, to build peaceful, just and *inclusive* societies... to create conditions for sustainable, *inclusive* and sustained economic growth... (§3)

A world with *equitable* and universal access to quality education at all levels, to health care and social protection ... (§7)

A world of universal respect for human rights and human dignity, the rule of law, justice, *equality* and non-discrimination; of respect for race, ethnicity and cultural diversity; and of *equal opportunity* permitting the full realization of human potential ... (§8)

A world in which every woman and girl enjoys full gender *equality* and all legal, social and economic barriers to their empowerment have been removed. A just, *equitable*, tolerant, open and socially *inclusive* world in

which the needs of the most vulnerable are met. (§8)

Main text: Leaving no one behind

... we pledge that no one will be left behind (Preamble)

... we will endeavour to reach the furthest behind first (§4)

No one must be left behind (§24; health)

Quality, accessible, timely and reliable disaggregated data will be needed to help with the measurement of progress and to ensure that no one is left behind (§48; data)

A robust, voluntary, effective, participatory, transparent and integrated follow-up and review framework to ensure that no one is left behind (§72; follow-up and review framework)

... people-centred, gender-sensitive, respect human rights and have a particular focus on the poorest, most vulnerable and those furthest behind (§72; follow-up and review processes)

Sustainable Development Goals

Ensure *inclusive and equitable* quality education and promote lifelong learning opportunities for all. (Goal 4)

Promote sustained, *inclusive* and sustainable economic growth, full and productive employment and decent work for all. (Goal 8)

Build resilient infrastructure, promote *inclusive* and sustainable industrialization and foster innovation. (Goal 9)

Make cities and human settlements *inclusive*, safe, resilient and sustainable. (Goal 11)

Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and *inclusive* institutions at all levels. (Goal 16)

Source: United Nations (2015b)

Entry points to enable inclusive, people-centred recovery

The most vulnerable and marginalized groups have specific challenges and needs, which are often not addressed in recovery plans and policies. In the context of COVID-19 inclusive processes are challenged due to stay-at-home orders for those with health vulnerabilities, mass gathering prohibitions, lack of access to information and digital platforms as well as mobility restrictions to reach disadvantaged groups in geographically isolated areas. In addition, there are issues related to human rights and data privacy that hinder participation. Given the negative socioeconomic impacts of COVID-19 on these groups, there is an urgent need to plan and implement recovery programs that are informed, inclusive and targeted. Some entry points to enable inclusive, people-centred recovery are discussed in the following.



Photo Credit: "IMG_6158: Sunita Rai, 40, lives in Chalna at Dacope upazila in Khulna. She suffers due to a spinal cord ailment for the last 16 years, which stemmed from an injection that was pushed into her during her C-section delivery..." by UN Women Asia and the Pacific, licensed under CC BY-NC-ND 2.0.

Social protection

Social support targeted at households and groups that have limited ability to self-recover would be critical (Kostinen & Mortlock, 2020). Investments in social policies and safety nets for the formal and informal sectors include paid sick leave, unemployment benefits, paid family and parental leave, cash transfers, food vouchers and food distribution programs as well as access to healthcare services (World Economic Forum, 2020a). Social protection schemes may need to be continued in the long term to support vulnerable groups that need resources to recover from the disproportionate impacts of the pandemic.

Economic recovery

Long-term recovery investments must support and protect women and marginalized populations, including older persons, persons with disabilities, migrant and informal workers, displaced populations, indigenous peoples and slum dwellers, among others. Cash transfer programs to the most vulnerable groups, including women-only households (e.g., single mothers with children, widows or female smallholder farmers), will be essential. Stimulus packages would be needed, especially by female-owned businesses, which are predominantly in the informal sector and therefore lack social protection against shocks. For informal workers, packages should come with sustainable financial measures (e.g., micro loans, micro insurance, and group loans) to assist their financial recovery while protecting them from the loan debt trap (Food and Agriculture Organization, 2020c).

Data management

Many countries still do not collect, report or use data on the most vulnerable and marginalized populations. Since these groups are 'invisible', appropriate interventions cannot be planned for. There is limited availability of data disaggregated by sex, age, disability and other characteristics. Therefore, it is crucial to collect better data to understand and measure the true scope of the problem of marginalized sectors and to inform the

development of appropriate actions (UNESCO, 2020a). There is experience and evidence that show how disaggregated data led to positive outcomes in recovery, preparedness and response, reaching the last mile and promoting inclusion and leadership by those left furthest behind (ACP-EU Natural Disaster Risk Reduction Program, 2017). Where disaggregated data are poor or non-existent in the short-term, the best available data that may represent vulnerable groups can be used for recovery while better data collection, and associated capacity building are planned in the medium- to long-term. Further, mechanisms to address issues on data sharing and exchange, interoperability and harmonization as well as confidentiality and security need to be established.

Box 9: Local data needs for planning pandemic response and recovery in informal settlements

There are different types of data needed for planning pandemic response and recovery in informal settlements, including for analysis and modelling impacts, for determining appropriate measures for infection control as well as for delivery and monitoring of response and recovery actions. These include:

- **Demographic data** of the number of people living in an area (including settlement density and household overcrowding), disaggregated by age, gender, and social characteristics;
- **Health status of populations** (e.g. prevalence of non-communicable disease risk factors and potential risk factors), including rates of morbidity and mortality to detect unexpected increases and to plan for surge capacity;
- **Economic data** on livelihoods (type and distance), savings schemes, supply chains as well as cost of living, basic goods and services (including water and sanitation);
- **Health and social services** to assess capacity and likely health seeking practices, education and care services;
- **Spatial data** including maps and GIS data on settlements and points of interest;
- **Social data and knowledge** (e.g. social networks, behaviour and culture including kinship, mobility, availability and use of space as well as social roles and status); and
- **Citizen-generated** data including electronic and social media data.

Local data on informal settlements, often missing from formal sources, can be obtained from locally-led alternatives. Examples of these are socio-economic data collected by Slum/Shack Dwellers International (a network of community-based organizations of the urban poor in 33 countries in Africa, Asia, and Latin America), community maps using open-source tools, smartphone-based data from online networks as well as data generated by National and Local Urban Observatories affiliated to the Global Urban Observatory managed by UN-Habitat.

Source: Wilkinson *et al.* (2020)

Science, technology and innovation

Open science aims to make scientific research and data accessible to all by publishing open scientific research and campaigning for open access. It utilizes the internet and associated digital tools for greater local and global research collaboration and includes open notebook science, citizen science, open-source software and crowd-funded research (UNESCO, 2020b). Citizen science, in particular, allows soliciting of contributions from volunteers of all ages and skills thereby promoting inclusion. This active citizen participation can empower vulnerable and marginalized groups in shaping scientific research that can impact the quality of life of communities (Provenzi and Barello, 2020). This also supports more data collection and increases usage and impact of information by engaging citizens in science, technology and innovation interventions (Bower, Parker and Long, 2020). In the context of recovery, increased access to data, information and research through open platforms and participation in citizen science will open more avenues for vulnerable groups to voice their concerns and contribute to recovery planning.

Communication

Empathy and emotional intelligence are qualities much needed in communicating with vulnerable groups. Measures should be taken to strengthen communication with and support for networks of vulnerable groups to ensure the sharing of relevant information as well as their participation in the design, implementation and monitoring of recovery activities.

Participation

The COVID-19 recovery requires the participation of all relevant stakeholders. The inclusion of groups with higher levels of vulnerability, in particular, would be critical. The most vulnerable and marginalized groups face the greatest inequalities and structural barriers to accessing their rights, thus, they must be provided with opportunities to participate. Engaging groups that are most at risk in the planning, design, decision-making and implementation of recovery actions is key to the success of any recovery program. It is imperative that responses need to be differentiated and investments targeted to address specific needs of vulnerable populations (UNDRR, HelpAge International and UN Women, 2020). For example, measures for indigenous peoples should be determined and implemented through consultation and agreement with leaders as well as the involvement of the indigenous peoples themselves in a culturally appropriate manner (Lane, 2020). Older persons must be consulted and should participate in decisions that affect their lives (UN DESA, 2020b). Lastly, women leaders and women's organizations should continue to have a platform to participate in decision making processes on the needs and concerns of their communities. These groups that are disproportionately impacted require targeted measures in recovery to ensure that unintended negative consequences are avoided.

Box 10: Leaving no one behind in COVID-19 recovery

Implementing targeted measures that address the needs of the most vulnerable groups is vital in recovery. Recommended actions to ensure that no one is left behind include:

1. Identify and mitigate unintended economic and health consequences of the COVID-19 response.
2. Ensure social distancing does not lead to social exclusion.
3. Proactively address increased stigma, discrimination and risk of violence, in particular, sexual and gender-based violence.
4. Prioritize a rights-based approach to COVID-19.
5. Include vulnerable groups in COVID-19 decision-making and management.
6. Ensure targeted messaging reaches all vulnerable groups.
7. Collect and use disaggregated data to strengthen targeted and intersectional approaches.
8. Scale-up social protection for the most vulnerable.
9. Target economic stimulus and recovery programmes for vulnerable groups.
10. Leverage networks and provide support for mental health impacts.

Source: UNDRR, HelpAge International and UN Women (2020)

Partnerships

Building partnerships can provide access to resources and better coordination for recovery actions. Every stakeholder has expertise, resources and networks that can provide solutions to varying concerns. For example, creating partnerships with the private sector could address digital inequality by increasing access to digital platforms and provide women, youth and children with support for the continuance and advancement of distance learning. Partnerships and collaborations should build on existing capacities and structures to strengthen institutions and increase social cohesion, and not be replaced with new ones as much as possible (World Bank, 2018b).

Box 11: Multi-stakeholder partnership to coordinate response and recovery across fragmented systems in Syria and Lebanon

In both Syria and Lebanon healthcare governance is highly fragmented, but frontline medical workers have been crucial in ensuring that responses to COVID-19 are coordinated. In Idlib, the civil society-led health directorate has taken the lead in coordinating a COVID-19 task force through which NGOs, international agencies, volunteer rescue workers and opposition groups are implementing COVID-19 preparedness, response, and early recovery activities for its besieged population, half of whom are displaced. In a context where so many actors are in dispute over territory, the local and international legitimacy of the medical doctors leading the directorate has been critical in enabling coordination and fundraising.

Ground coordination is particularly important within and around the Ein-El-Helwe Palestinian refugee camp in Lebanon. Staff from the Ministry of Public Health, UN agencies, international and local NGOs as well as first aid responders have collaborated to reach communities with educational material via social media, to adapt the physical spaces of ambulances and hospital entryways in order to protect staff and patients from infections and to reinforce referral systems in order to transfer patients when the main hospital inside the camp becomes overwhelmed. Each of these issues has been recognized to affect people and systems inside and outside the camp and the innovations adopted are being translated as much as possible across systems and into the longer-term recovery.

Source: Duclos and Palmer (2020)

Mainstreaming inclusion in policy and plans

A whole-of-government approach is needed to mainstream inclusion into plans, programs and budgets of government agencies and to institutionalize it in government processes, systems and structures. The public sector often ignores the benefits of embracing the diversity of populations, although much progress has been made on women and children (UNESCAP, 2019; UNICEF, 2020). The government's role in policymaking is crucial in achieving equity and reducing inequality. Appropriate legislation could support an inclusive recovery process that prioritizes needs and allocates resources. Coherence in policies is also sought to benefit from synergies and to reduce duplication and conflict.

Summary

Long-term recovery measures to deal with the disproportionate impacts of COVID-19 must consider the well-being of the entire population, especially that of groups that experience multiple forms of exclusion and living in poverty. The most vulnerable and marginalized populations (e.g. women, children and youth, older persons, persons with disabilities, indigenous peoples, informal workers, migrants, slum dwellers, and homeless persons) suffer socioeconomic impacts from COVID-19, including physical and mental health, nutrition, education, income, access to basic services (water, sanitation, energy and digital technologies), unpaid care work and gender-based violence. These groups have specific challenges and needs, which should be considered in recovery plans and policies. Among the entry points for recovery programs are social protection, economic recovery, data management as well as mainstreaming inclusion, policy, participation, communication and partnerships.

- The most vulnerable and marginalized groups experience the negative socioeconomic impacts of COVID-19 the most, which necessitate actions to plan and implement a recovery program that is informed, inclusive and targeted.
- The more a person is excluded, the more challenging recovery is due to the multiple layers of vulnerability that need to be addressed.

- Participation is key to co-designing solutions and leveraging on community-based initiatives.
- Only by leaving no one behind can we successfully overcome the pandemic.

Principle Three: Transparent Evidence- Based Decision-Making

Introduction

As decision-makers seek to mitigate the impact of COVID-19, data on the pandemic are crucial. Collecting the most relevant information, when it is needed the most, is a priority. Judgements have to be made based on the best evidence available in the face of great uncertainty, emerging evidence, and shifting scientific understanding over the course of the pandemic (Ramalingam, Wild and Ferrari, 2020). In addition, interpreting evidence from different disciplines is necessary to obtain a holistic understanding of the disproportionate impacts on different groups, and the interdependencies among sectors for better response and recovery actions. Due to fast changing trends of infection, risk assessment and monitoring have been undertaken regularly. Research that fed into response and recovery has also been conducted utilizing innovative data collection methods.

Evidence-based decision-making makes it possible for people to make well-informed decisions by putting the best available evidence at the heart of planning and decision-making as well as policy development and implementation in both the medium- and long-term (Young and Quinn, 2012). It would be critical, therefore, to conduct assessments that provide data and ground-truthed evidence to guide recovery planning. As one of the quality management principles of the International Organization for Standardization, evidence-based decision-making supports effective decisions through the analysis and evaluation of data and information. As a result, it allows for (i) improved decision-making processes, (ii) enhanced assessment of process performance and ability to achieve objectives, (iii) strengthened operational effectiveness and efficiency; (iv) increased ability to review, challenge and change opinions and decisions and (v) heightened ability to demonstrate the effectiveness of past decisions (ISO, 2015). Because it is driven by empirical analysis of policy challenges, it brings a focus on solutions rather than just politics.

Challenges to evidence-based decision-making

As has been proven in previous disaster events, people will trust interventions and actions only if information is open, drawn from trustworthy and verifiable resources, and are meaningful given their use (UNDRR, IRP and UNESCAP, 2020). It is crucial that information is further filtered by

objective individuals and organizations to convey only the real facts (Hechenbleikner, Samarov and Lin, 2020). The following discusses some of the challenges to evidence-based decision-making in the COVID-19 response and recovery.

Information management and sharing

Analysis of data is challenged by lack of information management including data collection, disaggregation, storage and updating. In developing countries, the absence of systems that regularly capture, monitor and disaggregate socio-economic data makes it difficult to identify vulnerable populations and to deploy humanitarian assistance and social protection measures. Sharing of information is also constrained by harmonization and interoperability issues, by limited use of open data as well as by data protection and privacy considerations. In recovery, information is critical to obtain robust assessments that will inform recovery planning and implementation as well as monitoring and evaluation of the progress of the recovery.

Box 12: Trusted data sharing framework in Singapore

Singapore developed a framework to guide organizations through the data sharing journey and outline key considerations for organizations when planning data partnerships. It is intended for use in the commercial and non-governmental sectors and excludes data sharing in or with the public sector. The framework is organized into four parts:

Part 1: Data Sharing Strategy. Organizations will understand what data will be useful to be shared, how this data can be valued, and the various arrangements or models that can be used for the sharing of the data.

- 1.1 Establish data sharing potential and value of own data
- 1.2 Understand potential data sharing models
- 1.3 Consider engaging data service provider to facilitate data sharing

Part 2: Legal and Regulatory Considerations. Organizations will understand the compliance requirements for data sharing, and how to structure the legal relationship to enable trusted data sharing between parties.

- 2.1 Determine if data can be shared
- 2.2 Establish data sharing agreement

Part 3: Technical and Organization Considerations. Organizations will understand the technical considerations and mechanisms for moving data to other organizations.

- 3.1 Prepare data for data sharing
- 3.2 Understand technical considerations for data sharing

Part 4: Operationalizing Data Sharing. Organizations will understand the additional considerations after data sharing has taken place.

- 4.1 Ensure transparency and accountability
- 4.2 Monitor ongoing legal and regulatory obligations
- 4.3 Use of data for secondary purpose
- 4.4 Understand considerations for retention and disposal of data

Source: IMDA and PDPC 2020

Misinformation, disinformation, and infodemics

Social media platforms and search engines' algorithms contribute

to much of the misinformation and disinformation today. The pervasiveness of intentionally misleading content in online platforms during these uncertain times has affected individuals' understanding of reality. As a result, it has undermined trust, informed dialogue and decision, a shared sense of reality, mutual consent and participation (Ireton and Posetti, 2018) as well as created or deepened tensions in society. These have implications to recovery in that conveying recovery priorities to stakeholders may become challenged and consensus around them difficult to build. Further, countering the 'infodemics' that are prevalent in the digital age of disasters, wherein there exists an excessive amount of information on the problem, is likewise critical to enabling good decision-making on the part of the individual (UN Department of Global Communications, 2020). An overabundance of information on a topic, such as is occurring with COVID-19, can make it difficult for people to find trustworthy sources and reliable guidance when they need it. Recovery planning will be affected because more time will be spent on scrutinizing the validity of the information, which may result in differing perspectives and understanding by recovery actors.

Box 13: COVID-19 infodemic and its impact on public health

A study by Islam et al. (2020) conducted between 31 December 2019 and 5 April 2020 analysed COVID-19 related rumours, stigma and conspiracy theories on online platforms, including fact-checking agency websites, Facebook, Twitter and online newspapers as well as their impact on public health. Findings show that there have been 2,311 reports of rumours, stigma and conspiracy theories related to illness, transmission and mortality, control measures, treatment and cure, cause of the disease, including its origin as well as violence in 25 languages from 87 countries. This had severe negative implications to public health, including poor health-seeking behaviour, social avoidance or rejection, physical violence and even death.

Source: Islam et al. (2020)

Risk perceptions and preconceptions

People's actions in emergencies are largely influenced by risk perceptions and whatever preconceptions they may have. Because the scientific community's knowledge of the virus remains limited, conspiracy theories associated with COVID-19 abound to fill the void left by science and explain what scientists cannot. In addition, existing religious beliefs that run counter to health protocols, such as visiting churches or mosques, lead to negative responses to COVID-19 guidelines. Other misinformation, including rumours on treatment and prevention, and stigma that create fear and false beliefs further undermine individual responses. Longer-term recovery necessitates the cooperation of every individual in implementing a holistic recovery program. This can only be achieved with a shared understanding of the risks based on evidence and informed by science.

Implications for risk governance

COVID-19 has created extraordinary challenges that entail revisiting the dimensions of risk governance to promote transparency and evidence-based decision-making. In the absence of early eradication, COVID-19 recovery efforts will mandate that governments take and recommend actions involving public health risk and that they expend public resources. Some implications of evidence-based decision-making relative to the key elements of risk governance are discussed in the following.

Trust

The unique characteristics of COVID-19 pose challenging problems for building trust. Sharing information is therefore paramount and would be instrumental in building trust amidst uncertainty. People generally look to their government to provide credible information based on facts, which would shape individuals' behaviour. This credibility depends greatly not only on the trust the people have in their government, but also on the way governments provide timely and reliable information (UN DESA, 2020a). It is important for governments to align with trusted scientific experts to eliminate confusion with rapidly evolving knowledge and mixed messages (Balog-Way and McComas, 2020). In the long-term, trust provides the means for cooperation that can drive behaviours toward systemic coordination and socioeconomic recovery.

Box 14: Embedding trust into COVID-19 recovery

In a public health crisis trust in institutions and individuals influence how communities are able to respond and recover better. Four dimensions of stakeholder trust will be critical to recovery to enable positive outcomes:

Physical: Can stakeholders trust that physical locations are safe?

It would be important to assure the workforce that the workplace is a place where they can safely do their jobs and where infection control and prevention is prioritized.

Emotional: Can stakeholders trust that their emotional and societal needs are being safeguarded?

Individuals need to know that they can turn to or find support in their organizations or institutions.

Financial: Can stakeholders trust that their economic and financial concerns are being served?

In the face of great financial uncertainty communications need to be grounded in clear, achievable actions with a focus on maintaining integrity.

Digital: Can stakeholders trust that their information is secure?

It will be critical for the public sector and the private sector, particularly technology and telecom companies, to clearly communicate and instill trust that data and technologies will be safe and secure.

Source: Lee et al. (2020)

Accountability

Public officials should be accountable for the government's behaviour and responsiveness to needs. Accountability enables the public to demand that a person or organization give reasons to justify their behaviour as well as to impose sanctions if they fail to give reasons or if their performance is poor. To strengthen accountability, it would be important to understand how existing mechanisms for COVID-19 work before identifying problem areas, appropriate reform strategies, and accountability instruments (Brinkerhoff, 2003).

Transparency and anti-corruption

Institutions should be open and candid about their rules, regulations and decisions and should promote access to information through strategies such as proactive disclosure of information, budget transparency and open government data, among others (UNECOSOC, 2018). Government transparency reduces uncertainty and can help inhibit corruption. People lack trust in public institutions where corruption is perceived to be high (Khemani, 2020). Evidence has shown that many countries suffer from systemic corruption risks associated with emergency funding and procurement, excessive pricing, and resale of pilfered supplies, substandard, and falsified products, among others (UN DESA, 2020b). Increasing transparency and participation can dispel beliefs that public resources are being misappropriated especially during recovery.

Box 15: Paraguay's InvestmentMap + ModuleCOVID-19 tracks resources for the COVID-19 emergency

The Government of the Republic of Paraguay launched InvestmentMap + ModuleCOVID-19, an information management platform developed by the Inter-American Development Bank to improve transparency and efficiency in public spending. Paraguay became the first country in Latin America and the Caribbean to adopt InvestmentMap to monitor the use of public resources mobilized for the COVID-19 emergency. It is regularly updated with public expenditure information (program funding, subsidies, contracts and current spending) allowing the public to access information and accountability mechanisms, thereby promoting transparency and integrity in the management of public resources.

Source: Inter-American Development Bank (2020)

Participation

All relevant stakeholders should be actively involved in matters that directly affect them and have a chance to influence policy (UNECOSOC, 2018). As demonstrated in the COVID-19 response and recovery efforts, collaboration with stakeholder groups and citizen engagement have generated innovative actions, and helped enhance public trust. These actions are essential to initiating behaviour change that will need to be maintained over the long term. Involving the whole of society is important as every stakeholder has a role to play as a partner and agent of recovery.

Coordination and partnership

A whole-of-government approach ensures that all government agencies contribute to recovery efforts, and supports complementary and coordinated actions. Lessons from public and private partnerships during the COVID-19 response show the importance of enabling experts to guide actions, of the value of empowering communities to design interventions considering their local contexts and of the significance of the high level of trust between the government, health professionals and scientists, the public and private sector (Africa Center for Strategic Studies, 2020). In recovery, partnerships should consider these important lessons and build on common needs, objectives and values as well as the core expertise or business strategy of partners.

Risk communication

As will be discussed in Principle Eight, effective risk communication is critical. Effective transparency and trust-building necessitates strategic communication in disseminating information. Approaches such as narratives, storytelling and empathy can be employed to communicate risk, which allow for shared values and responses (Balog-Way and McComas, 2020). Leveraging technical evidence and being critical of identity politics would also be important in messaging and communication (Khemani, 2020). It would be crucial for communicators to take advantage of various tools at their disposal to reach all audiences, especially the most vulnerable, by tailoring the message and medium based on the needs of different groups, actively countering misinformation and disinformation, trust-building, leveraging ICT and developing a communication strategy on the COVID-19 recovery plan (UNDRR, 2020b).



Photo Credit: "Entrevistas con 4 familias participantes en los procesos de inclusión educativa en las oficinas de RET por parte de Tomasso Fornai, Coordinador del programa ECW de UNICEF" by Santiago Arcos/UNICEF Ecuador, licensed under CC BY-NC-ND 2.0.

Science, technology and innovation

Science, technology and innovation policies play a key role in COVID-19 recovery plans, particularly in data governance to prevent potential harmful consequences of the digital revolution. Increased use of open data as well as creating policies and regulations to ensure data protection and privacy would allow and advance information sharing and exchange. Developing and scaling up technologies in recovery should have inclusiveness and sustainability in mind, where everyone can benefit from affordable and unrestricted access. Policy advice

and research cooperation with scientists, and capacity building for scientific advancement would also be important to link evidence-based decision-making to policy and practice during recovery.

Box 16: Principles for science advice

The COVID-19 recovery should entail a deliberate process to formulating policies and strategies using best available evidence. Clear communication of scientific evidence and advice is thus critical and must be guided by principles to optimise governments' scientific advisory processes with support of international scientific institutions and networks:

1. Have a clear remit, with defined roles and responsibilities for its various actors. This includes:
 - a clear definition and demarcation of advisory versus decision-making functions and roles,
 - defined roles and responsibilities, and the necessary expertise for communication,
 - an ex-ante definition of the legal role and potential liability for all individuals and institutions involved, and
 - the necessary institutional, logistical and personnel support relative to its remit.
2. Involve the relevant actors, including scientists, policy makers and other stakeholders, as necessary. This involves:
 - using a transparent process for participation and following strict procedures for declaring, verifying, and addressing conflicts of interest,
 - engaging all the necessary scientific expertise across disciplines to address the issue at hand,
 - giving explicit consideration to whether and how to engage non-scientific experts and civil society stakeholders in framing and/or developing advice, and
 - implementing effective procedures for the timely exchange of information and co-ordination with different national and international counterparts.
3. Produce advice that is sound, unbiased and legitimate. Such advice should:
 - be based on the best available scientific evidence,
 - explicitly assess and communicate scientific uncertainties,
 - be preserved from political (and other vested-interest group) interference
 - be generated and used in a transparent and accountable manner.

Source: OECD (2020b)

Summary

Enhancing data management, including comprehensive, disaggregated and regular data collection, updating and analysis, is key to evidence-based decision-making. The peculiarity of the pandemic at this digital age necessitates the consideration of the proliferation of misinformation and disinformation as well as infodemic and risk perceptions that influence individual

behaviours and responses. Since decision-making is closely linked to risk governance, key elements such as trust, accountability, transparency and anti-corruption, participation, risk communication, science, technology and innovation as well as coordination and partnerships would need to be framed against the COVID-19 recovery.

- In the face of great uncertainty during the COVID-19 crisis decision making must be based on the best evidence available.
- Data must be generated and utilized in a transparent and accountable manner.
- Trust-building prior to a crisis will facilitate better response and recovery actions.
- Tailoring the message according to the needs of different groups and utilizing multiple tools and channels will be important to reach all audiences.

Principle Four: Build Back Better and Greener

Introduction

The concept of building back better means using recovery, rehabilitation and reconstruction phases after a disaster for integrating disaster risk reduction measures into the restoration of physical infrastructure and societal systems, and into the revitalization of livelihoods, economies and the environment (United Nations General Assembly, 2016). Green recovery includes various political, fiscal, regulatory and environmental measures undertaken post disaster or emergency for advancing focused and sustained transition in resource- and carbon-intensive sectors towards greener and resilient processes and practices (Seth, 2020).

Unlike many other disasters, COVID-19 has not resulted in physical destruction, but has caused unprecedented social and economic losses across the globe. The pandemic has exposed the vulnerabilities and limitations of current physical infrastructure such as public transport, and public spaces especially in urban contexts, often leading to issues of over-crowding, closed spaces, and compromised sanitation and hygiene conditions, which have played a critical role in exacerbating the transmission of COVID-19. Returning to business as usual would only lock in or aggravate the existing risks to future shocks. The recovery process should itself provide an opportunity to build more resilient, inclusive and sustainable systems which are better placed to prevent similar crises in the future (UNDRR et al., 2020). Thus, the pandemic recovery and rehabilitation policies and processes, while reviving economies and livelihoods, should also strive to bring about behavioural changes among stakeholders to reduce exposure and enhance overall societal resilience (OECD, 2020).

Key dimensions for building back better and a greener future

OECD (2020a) highlights key dimensions as a litmus test for recovery policies' potential for building back better. These include aligning recovery goals and processes with long-term emission reduction goals, strengthening climate resilience, reducing biodiversity loss, building innovation on behavioural changes and increasing resilience and circularity of supply chains, among many others. Similarly, Noy, Ferrarini and Park (2019) put forth four criteria, namely, safety, speed, fairness and creation of long-term socioeconomic potential, for assessing economic policies on aspects of building back better. In addition, the WHO Manifesto for a healthy recovery from COVID-19 prescribes actions to (i) protect and preserve the source of human health: Nature; (ii) invest in essential services, from water and sanitation to clean energy in healthcare facilities; (iii) ensure a quick healthy energy transition; (iv) promote healthy, sustainable food systems; (v) build healthy, liveable cities; and (vi) stop using taxpayer money to fund pollution (World Health Organization, 2020k). To assess the sustainability of economic recovery interventions, the World Bank Group has laid down short term and long-term considerations which aim to evaluate the impact of interventions on human and social capital, technologies, natural and cultural capital, market failures, resilience and adaptive capacities, and de-carbonization (World Bank, 2020b).

Though the prioritization of these dimensions will vary across nations, a well-designed recovery from this crisis should be holistic, and encompass all dimensions. These priorities are strongly interrelated and interdependent. Leveraging these synergies and interdependencies is necessary to deliver a better recovery and put the Sustainable Development Agenda back on track. Collaborative efforts at all levels are necessary to ensure coherence in policies and initiatives and efficiently prioritize the use of recovery resources.

Economic dimension

Nations must address immediate recovery needs stemming from livelihood losses and potentially long-lasting damage to their economies. However, the scale and scope of economic recovery efforts also mark a historic opportunity for nations to take significant strides toward modernizing economies and livelihoods, and more inclusive and sustainable growth (World Economic Forum, 2020b). Recovery planners do not have to choose between meeting the acute needs of the current crisis, and building back better by shaping the economy and livelihoods for a more resilient future.

The economic impacts of the COVID-19 pandemic have shined a spotlight on existing inequalities. Vulnerable and excluded groups are often disproportionately impacted by disasters and often have greater difficulty with recovery. Hallegatte et al. (2017) found that the magnitude of disaster impacts on the well-being of poor populations is, as equivalent to consumption losses of about \$520 billion a year around the world. Building back better calls for a more equitable recovery that reduces inequalities in recovery. As inequalities are systemic in nature, far-reaching systemic changes are necessary. These may include taxation reforms, labour policy reforms, supporting labour market transitions, upgrade of social protection nets, job protection measures, providing nurturing



Photo Credit "UNICEF staff joined UN staff in Ethiopia in planting trees as part of the countries Green Legacy initiative in Yeka Kifle Ketema" by Nahom Tesfaye, UNICEF Ethiopia, licensed under CC BY-NC-ND 2.0.

ecosystem for innovations, and streamlining data and information systems. For example, adopting “adaptive” social protection systems can mitigate disproportionate impacts of shocks such as COVID-19, by adjusting the size of benefits and scope of who benefits. Evidence from households in Fiji targeted through the Poverty Benefit Scheme, which provided for transfers after tropical cyclone Winston, have recovered more quickly. Similarly, as planners look to build longer-term resilience and reduce inequalities through recovery programmes, they can pair cash transfer programmes with measures to build resilience by promoting economic inclusion, capacity building, livelihood diversification, savings and investments in climate adaptation. (Bodewig and Hallegatte, 2020).

Inclusiveness is not just a means but also an end for achieving sustainable recovery and should be embraced across all dimensions of recovery (Aizawa, 2020). If all countries had the ability to provide the poorest people with the post-disaster support found in developed countries, global well-being losses due to natural hazards could be reduced by nine per cent (World Bank, 2018a). A people-centred recovery approach ensures that people who recover from disasters have equitable access to secure livelihoods, health and other essential services, shelter, land, security, freedom and other characteristics that support people’s productive and creative lives (IISD, 2019). Having better and equitable access to basic services and resources will aid in strengthening the economic coping capacities and resilience of the communities to overcome the current losses and build resilience to future shocks.



Photo Credit “Two women textile worker performing a quality control together on the end-product, with her protective masks for COVID-19, Izmir, Turkey” by Kivanc Ozvardar, International Labour Organization, licensed under CC BY-NC-ND 2.0.

In addition, efforts should be made towards creating and enhancing markets for green energy, ecotourism, circular economy, and care economy, among others and thus having multiplier effects on employment, social capital along with environmental benefits (ibid). Jobs that can be created in green sectors, replacing jobs with high environmental footprints, without hurting overall employment. Moreover, investment in a green recovery can have significant, positive knock-on effects in other sectors. (OECD, 2017). Indeed, progress towards sustainability in the energy sector may create around 18 million more jobs globally by 2030 when compared to

the business-as-usual path (International Labour Organization, 2018). Measures targeted toward enhancing the efficiency of buildings and appliances can be quickly executed and have the potential to create around 10 to 15 jobs per million dollars invested (IEA & IMF, 2020). However, the transition needs to be accompanied with the right policies for supporting the workforce to transition to new sectors including aspects of relevant skill development. (OECD, 2017).

Box 17: Germany’s COVID-19 stimulus emphasizes low-carbon investments

A core element of the stimulus package for COVID-19 recovery is a €50 billion investment aimed at both reducing the carbon footprint of the country and promoting research and development in key low-carbon industries including low-carbon shipping and aviation. There is an increased focus on electric vehicles supported by investments in infrastructure like e-charging facilities. The package also supports Germany’s Hydrogen Strategy and envisages making the country a key player in the emerging hydrogen power industry. The package provides for energy-efficient building refurbishments, which is not only conducive for environment but is envisaged to provide large local jobs.

Source: Walton & Jonker (2020)

Moreover, the fragility of supply chains and businesses exposed by the pandemic should be addressed with innovative and green business continuity measures for building resilience against future shocks posed by potential natural, human-induced and technological hazards with due consideration on cascading risks like natural hazards triggering technological disasters.

Box 18: Cyprus’s integration of climate policies in COVID-19 economic recovery packages

A seven-step process to design a sustainable recovery package was put forth by the World Bank for Cyprus to synergize with goals for long-term climate and sustainability. The seven steps include:

1. Identifying potential stimulus measures from existing plans
2. Key stakeholder’s feedback
3. Active participation in working committee on the green recovery
4. Revising the list based on feedback
5. Deciding on an assessment method for sustainability of stimulus measures across economic, environment and energy.
6. Assigning sustainability scores based on assessment
7. Priorities the measures with due consideration to the available budget

It is important to note that these steps needed to be localised to the country context for a more effective recovery.

Source: Zachariadis *et al.* (2020)

Box 19: How to Build Back Better after the COVID-19 crisis in Fiji

Fiji was allocated a 3.7 billion Fijian dollar stimulus package to overcome the economic shock from Covid-19 and tackle issues of climate change and natural hazard risks. The World Bank, in order to make a balanced approach to deliver both short-term and longer-term benefits, designed a sustainability checklist considering the this “once-in-a-generation” opportunity to invest in resilience. The sustainability checklist was applied to 125 interventions identified earlier as a part of the Climate Vulnerability Assessment. The four emerging principles from this approach are:

1. Start smart by focusing on the existing programs and assessment methods
2. Learn from the past experiences to apply for long term recovery sustainability
3. Focus on communities to take advantage of innovations, inclusive participation to build resilience
4. Think outside the silo and have inter, multi and trans disciplinary approaches to expand the scope of application of interventions.

Source: Fargher and Hallegatte (2020)

Environmental dimension

The pandemic has underscored the importance of the environment in determining healthy life, work- place and productive economies (International Labour Organization, 2020a). As nations work toward economic recovery, the opportunity to re- shape policies to foster green recovery and address the looming climate crisis should not be missed. Recovery policies should push for concerted efforts to prevent a rebound to pre-pandemic greenhouse gas emissions. Policies should focus on sustaining the temporary positive impacts on pollution levels and air quality witnessed due to restrictions on various activities due to COVID-19.

An environmentally sustainable, green recovery should adopt the aspects of circular economy, sustainable production and consumption pattern, prompting low-carbon technologies and mobility, incentivizing use of renewable energy and nature-based solutions

Box 20: African Union Commission to advance renewables in response to COVID-19

The African Union Commission and the International Renewable Energy Agency (IRENA) have joined hands to advance the renewable energy sector across the continent to bolster Africa’s response to COVID-19. Inter alia, the cooperation aims at strengthening the capacities of rural health centres and communities for fighting the pandemic by using renewable energy to power critical services like medical equipment, provision of clean water for improved hygiene, and supporting agriculture. The cooperation envisages fast tracking energy access on the continent with targeted focus on vulnerable sections such as women and girls and rural and peri-urban areas.

Source: IRENA (2020)

Moreover, the pandemic has necessitated the increased use of Personal Protective Equipment (PPE) leading to another global crisis of plastic pollution threatening the ecosystem. Efforts should be made towards promoting efficient and safe management of PPE by disinfecting, washing and reusing, repurposing, recycling and proper waste management (International Labour Organization, 2020a).

Physical dimension

Despite not causing any physical destruction, COVID-19 has changed public’s relationship within physical infrastructure and spaces such as streets, footpaths, parks, markets, offices and other facilities. Furthermore, overwhelmed health facilities necessitated the repurposing of underused or non-critical public or private buildings including hotels, malls, dormitories, community centres, and schools into hospitals, quarantine centres, and testing facilities. These hold a great insight for planning safe and adaptable use of existing spaces and bringing systemic changes in policies of urban planning, community development, architecture, green building for upcoming development of physical infrastructures and public places (UN-HABITAT, 2020).

Communities may also use the recovery period to make changes towards a compact neighbourhoods model, which strives to ensure that all basic needs of residents are met within a few kilometres (or 15 minutes) of their doorsteps (ibid). Compact cities or neighbourhoods can reduce reliance on motor vehicles for everyday life and pays dividends for reducing greenhouse gas emissions, increasing physical activity, among other health benefits. Reducing reliance on personal motor vehicles can support transition toward more sustainable mobility, and reducing stress on transportation infrastructure.

Transport infrastructure is the backbone of sustainable mobility system and is the lifeline for movement of people, goods and services. During disasters the transport infrastructure plays a crucial role in prompt response and relief. Thus, the transport infrastructure in general and mass transport systems in particular should be resilient, provide for effective and safe crowd and vehicular management and support intra- and inter-modal agile mobility.

The pandemic has also provided the opportunity of innovating and experimenting use of technology for ensuring physical distancing and lower human density as well as for avoiding close interaction in physical spaces. These include use of robotics for delivery services, and disinfecting services, among others (van der Merwe, 2020). Physical infrastructure with contact-less and touch-free technologies can support providing safe public and commercial places and gradually regaining public’s trust in the post-COVID period.

Moreover, COVID-19 has highlighted the need for equitable access to public and open spaces across all levels. Recovery opens an opportunity to invest in open spaces like parks, gardens and playgrounds contribute to reducing stress levels, improved mental health and

well-being, while embracing the norm of physical distancing. They promote the use of environment friendly mobility through walking and cycling, and other health promoting forms of physical activity.

Box 21: Repurposing streets and infrastructure during COVID-19 response and recovery

Seattle (USA) - Parking spaces near food establishments were converted into pick-up and loading zones for customers and delivery workers.

Vilnius (Lithuania) - 18 public places were opened for outdoor cafes and restaurants to allow them to operate safely.

Milan (Italy) - Outdoor dining areas were re-designed by repurposing parking spaces.

Turin (Italy) - Public spaces have been transformed into learning spaces like school gardens.

Madison (USA) - Mobile libraries doubled as voter registration and ballot drop-off site.

Auckland (New Zealand) - Sidewalks were extended for creating more space for physical distancing.

Source: NACTO & GDCI (2020)

affected communities. Targeted efforts are called for different age groups, gender groups, working groups, migrant workers, ethnic groups and other marginalized sections of the society.

Box 22: New Zealand's COVID-19 Psychosocial and Mental Wellbeing Recovery Plan

The COVID-19 Psychosocial and Mental Wellbeing Recovery Plan of New Zealand aims to provide a national approach for supporting mental and social wellbeing of its citizens during the COVID-19 recovery period. It guides various agencies involved in planning, coordinating and delivering psychosocial interventions and mental health and addiction services. It provides a framework for collective actions to support families and communities to adapt and thrive over for next 12 to 18 months. It also supports a feedback mechanism, which helps in better shaping the plan as per emerging need and thus making it living and more relevant document.

Source: Kaha et al. (2020)

Social dimension

The socioeconomic impacts of the pandemic have further deepened poverty and inequalities, potentially exacerbating the existing vulnerabilities to climatic and disaster risks and derailing efforts made towards sustainable development. For effective realization of recovery policies and processes, efforts to build back better should be people-centric, targeting overall societal well-being and development progress, bringing in more inclusiveness and reducing inequalities, rather than focusing exclusively on economic growth and job creation (OECD, 2020).

The vulnerabilities of existing health systems exposed by the pandemic should be addressed. At the very least, progress toward universal health coverage is necessary to ensure the highest possible level of health and well-being and promoting equitable distribution by focusing on people's needs, as early as possible, and as close as possible to their everyday environment. In addition, it would be important to ensure that health systems are able to deal with the impacts of emergencies, minimizing disruption to essential services, protecting healthcare workers and playing an important role in health security. This includes strengthening the health surveillance system and infrastructure, which is built on the comprehensive understanding of the 'one health' concept⁵, embracing the Bangkok Principles for integrating the aspects of disaster risk reduction in the health sector (UNDRR, 2016) and working within the Health Emergency and Disaster Risk Management Framework, which emphasizes assessing, communicating and reducing risks and building resilience of communities and health systems (World Health Organization, 2019). Lessons learned from past recovery



Photo Credit: "Young men wear face masks while cycling in a park in Büyükçekmece, Turkey" by Levent Kulu, UNDP.

Psychosocial dimension

In addition to the unprecedented loss of life and livelihood, the pandemic has adversely affected social interaction and social capital through prolonged front-line duties and closure of social and cultural spaces like schools, colleges, religious, and recreational centres. Physical distancing policies and norms have kept people apart from one another, limiting interactions in many cases to computer screen. They have put a hold on social gatherings like weddings, funerals, sporting events and other leisure activities, and, importantly, family gatherings. Workplace safety measures have also, by necessity, limited another avenue for social interaction. Sustained efforts are required to provide psychosocial support and support long-term rehabilitation for

5 The 'one health' approach highlights that health of humans, animals and the ecosystem are interlinked and fall-out in one impacts the other (International Labour Organization, 2020a). It calls for multi-sectoral collaboration for designing and implementing policies, legislations, programs and research to achieve better public health outcomes (World Health Organization, 2017).

experiences, systemic risks and vulnerabilities exposed by them should be addressed through a coordinated recovery.

During the COVID-19 pandemic, complex and cascading risks have also been experienced in different parts of the globe. including for example, Tropical Cyclone Harold in the Pacific, an earthquake in Croatia, and pest attacks in parts of Africa and South Asia. Such complex emergencies have the potential of eroding societal resilience, deepening the existing vulnerabilities and creating new vulnerable groups. This calls for building and investing in institutional capacities, strengthening of social infrastructure, expanding disaster responsive and adaptive social protection to better safeguard the vulnerable sectors from future shocks and requires an all-hazards and all-of-society approach for coordinated institutional efforts (UNDRR et al., 2020). Expanding the coverage of social protection programs and strengthening delivery systems to make programs scalable and climate shock-responsive can aid the countries in building back better. The countries should leverage the social safety nets put in place in response to the COVID-19 shock and should make them more robust (Bodewig & Hallegatte, 2020).

Box 23: Philippines efforts at expanding social protection post-Typhoon Haiyan

The Philippines has one of the most advanced social protection systems in the Asia Pacific region, designed to help poor households manage risks and shocks. For example, the Pantawid Pamilya Pilipino Program (4Ps) is a nationwide conditional cash transfer program aimed at poverty reduction and human capital development. In response to Typhoon Haiyan in 2013, the Government of the Philippines and the Department of Social Welfare and Development, the lead agency for social welfare and protection, implemented a variety of programs including distribution of in-kind relief items (e.g. family food packs, food for work and non-food items), cash transfers (e.g., 4Ps waiving conditions of receiving benefits, cash for work and cash for building livelihood assets), shelter (e.g., temporary and emergency shelter assistance as well as core shelter assistance), and community driven development. Separate humanitarian cash transfer programs were also implemented, including that of WFP and UNICEF, which utilized the 4Ps system to deliver additional emergency cash transfers to affected households. This system can be utilized with modifications in its programs for the COVID-19 recovery.

Sources: Bowen (2015) and UNDRR, IRP and UNESCAP. (2020)

Concerted efforts towards building societal resilience should also be undertaken through participative, inclusive and community-based approach. This includes making communities more aware and better prepared of potential climatic and disaster risks through effective risk communication and targeted capacity building measures. Furthermore, these efforts should envisage

to bring about positive behavioural changes in the community for critical aspects exposed by the COVID-19 pandemic like respiratory etiquette, safe disposal of PPE, medical and other wastes, being socially responsible in supporting the government's efforts in risk mitigation, and volunteerism.



Photo credit: "Tirusew Getachew, a Social Worker interviews a young girl who recently departed from Saudi Arabia amid the COVID-19 crisis" by Nahom Tesfaye/UNICEF Ethiopia, licensed under CC BY-NC-ND 2.0.

Institutional mechanism for disaster risk governance

In order to integrate, plan and implement the above-mentioned key dimensions of better and greener recovery post-COVID, it is crucial to establish and strengthen a robust institutional mechanism for disaster risk governance at national and sub-national level. This includes a system of institutions, mechanisms, policy and legal frameworks and resources to plan, coordinate and undertake various disaster risk reduction measures. Moreover, the Sendai Framework for Disaster Risk Reduction also calls for putting in place national and sub-national strategies for prevention of creation of new risks and reducing and managing the existing disaster risks.

Considering the multi-sectoral nature of the dimensions discussed above, which necessitate the collaborative role of diverse stakeholders, it is important that such an institutional mechanism for disaster risk governance adopts a whole-of-society and whole-of-government approach. It should also provide for the capacity building of key stakeholders for better understanding and implementation of these dimensions along with dedicated financial mechanism to support the envisaged measures under each of the dimensions.

Summary

It is well-known that returning to business as usual will not lead the global community to a sustained recovery, which strengthens global well-being, addresses the underlying vulnerabilities and mitigates climate and disaster risks. Thus, as policies transition from short-term life-support measures to stimulus phase, nations should make use of the window of opportunity to influence the future direction of policies on the path of resilient, sustainable and greener recovery.

- A well-designed recovery policy aimed at building back better and greener is multi-dimensional and catalyses efforts toward sustainability, disaster risk reduction

and climate action.

- Inclusive and sustainable economic growth, powered by lower resource use, is necessary for green and sustainable recovery.
- Nations should work together towards identifying new sources of economic growth and aligning the economic performance in terms of greener, accountable, inclusive and sustainable systems.
- There is a need for re-designing public places and nurturing open spaces along with ensuring their equitable distribution.
- Building societal resilience for all hazards and stimulating behavioural changes in the public through risk communication and other tools can go a long way in mitigating the adverse impacts of future shocks.

Principle Five: Preserve Development Gains

Introduction

The Sustainable Development Report 2020 recognizes the rapid progress made towards achieving SDG 1 (No poverty), SDG 9 (Industry, innovation and infrastructure) and SDG 11 (Sustainable cities and communities) since 2015 (Sachs *et al*, 2020). By contrast, a slowing or reversal of progress has been experienced towards SDG 2 (Zero hunger), and SDG 15 (Life on land), and SDG 3 (Good health and well-being). The report highlights that the progress may not be adequate to achieve the envisaged SDG targets by 2030. The report also flags that large negative spillovers by high-income countries undermines the efforts of other countries in achieving the SDGs.

The COVID-19 pandemic is very likely to worsen the pace of progress made in achieving the SDGs. It is likely to adversely impact 12 out of the 17 SDGs (Barbier and Burgess, 2020). The trajectory of achieving the targets and commitments under the Sendai Framework for Disaster Risk Reduction and the Paris Climate Agreement is also threatened. According to the Sustainable Development Report 2020, COVID-19 has highly negatively impacted five SDGs namely, SDG 1, SDG 2, SDG 3, SDG 8 (Decent work and economic growth) and SDG 10 (Reduced inequalities) in the short term. It has mixed or moderately negative impacts on eight of the SDGs, while the impact on the remaining four SDGs (SDGs 12-15) was not yet clear. While COVID-19-induced decline in economic activities has shown some temporary environmental benefits, it is pertinent to preserve these environmental gains during restoration of the activities. Any relaxation in enforcement of environmental laws or postponement in the adoption of the envisaged measures can be detrimental for achieving the SDGs 12-15.

The pandemic has adversely affected almost all sections of societies and all sectors of economies across the globe. However, these impacts have been differential across sectors, in the short term and with projected long term impacts. Amidst other setbacks, the pandemic has constrained the mobilization of financial support toward developing countries. This has resulted in exacerbating the adverse impacts of the pandemic on developing countries in the backdrop of inadequate international support towards advancing the SDGs (Barbier and Burgess, 2020). Thus, the challenge is more for least developed countries, small island developing states, and fragile states.

SDGs as a comprehensive framework for a sustainable recovery

It is noteworthy that COVID-19 has not only impacted (adversely or positively) SDG progress, but also past progress has influenced the severity of impacts of COVID-19 (UN DESA, 2020e). Thus, it is crucial that the recovery is guided by understanding the interplay of COVID-19 and SDG progress at the national and sub-national levels. The pandemic has exposed various systemic risks and underlying vulnerabilities, including limited and inadequate safety nets, inequality, unequal access to basic services, vulnerable supply chains, systems and infrastructure, digital divides, overestimation of existing preparedness levels, lack of understanding and capacities for managing complex risk. Notably, these factors are at the heart of the adopted development agenda. In light of this, the SDGs provide a comprehensive framework for a sustainable recovery from COVID-19 and other potential disasters. Moreover, any ad-hoc response without long-term goals can only further deepen the consequences of COVID-19; thereby reversing the years of progress made (UN DESA, 2020c).

A better understanding of this interplay can aid each nation in adopting the most appropriate and targeted recovery strategy. This calls for a robust and realistic monitoring and evaluation system, which informs and supports the synergized efforts across the SDGs. The following key sub-principles should be considered in this regard.

Strengthening the monitoring and evaluation system

A sense of false or overestimated preparedness of healthcare systems of many developed countries was challenged by the COVID-19. This highlights the need for re-examining and strengthening the existing mechanisms and indicators used for monitoring and evaluating the capacities and resilience of the systems and infrastructure across sectors (Sachs *et al*, 2020). It is possible that similar gaps also exist in the monitoring and evaluation (M&E) mechanisms of the SDGs at national and local levels. This can result in an inaccurate understanding of the progress, which forms the basis of choosing the right strategy for sustainable recovery from COVID-19. Furthermore, such a system needs to be robust and as real-time based as possible so that it helps in undertaking a forward-looking assessment of the progress based on latest available data. Such a system for M&E can be further strengthened by innovative use of new and emerging technologies such as big data and artificial intelligence. Though with their own share of challenges, these technologies adopt the concepts of real-time data, open data, and deep learning, and can enhance data accessibility, low cost data availability, citizen participation and feedback while possibly bridging the existing data and information gap (Ziesche, 2017).



"Yedidiya and Semretmedhin, attending classes via Radio which is one of the government's initiative to support studying at home" by UNICEF Ethiopia, licensed under CC BY-NC-ND 2.0.

An M&E system is data and information driven. Without having in place, authentic baseline datasets and information on all sectors and all sections of society, assessing the progress of initiatives undertaken is not possible. Thus, strengthening M&E systems and mechanisms should go hand in hand with robust and systematic mechanisms for data management. Osuteye et al. (2017) highlighted some of the key gaps in most of the existing disaster loss databases whereby amidst other gaps like quality of data, and lack of disaggregated data, among others, non-economic losses like morbidity are poorly documented on the one hand and there is limited information on monetized losses on the other hand. It underscores the crucial need for having in place a robust mechanism for data collection and systematic cataloguing at national and sub-national level for supporting informed and evidence-based decision making (ibid). The need for availability, open-exchange and dissemination of disaggregated data (including sex, age, and disability), which are easily accessible, up-to-date and comprehensive has also been underscored in the Sendai Framework for Disaster Reduction (United Nations, 2015a). In addition, recovery being a multi-dimensional and multi-sectoral process involving whole-of-society and whole-of-government, better harmony in data management systems of the involved stakeholders can help in overcoming the issues of duplication and omission and bringing more coherence in varied policies and plans of the involved stakeholders.

Temporal mapping of the progress in each goal and sub-goals (pre- and during/ post COVID-19)

Progress of the goals and sub-goals should be mapped for pre-COVID-19 vs. during and post-COVID-19 times. Effective progress should be further understood by identifying impediments to progress and factors supporting progress. Based on the effective progress made, a suitable strategy can be adopted for overcoming backsliding already caused due to COVID-19 or otherwise, preserving the gains made, and advancing the progress.

For goals and sub-goals that have suffered from a reversal of progress or stagnation in progress pace, national and sub-national impediments triggered by COVID-19 or otherwise should be identified. These impediments should be worked on for overcoming and preventing a further backsliding and preserving the gains made.

It is noteworthy some of the strategies adopted to curb the transmission of the COVID-19 have resulted in small positive gains across different sectors and SDGs. These gains must not be ignored as one-off events and must be built on by nations and global communities in laying down the recovery strategies ahead. For the goals and sub-goals, which have witnessed growth in progress or maintained the progress pace, national and sub-national factors that supported growth and prevented the backsliding should be identified. These supporting factors must be promoted for preserving the existing gains and advancing the progress of the sub-goals and goals.

Synergizing efforts across different goals

Having identified impediments and supporting factors, nations should be equipped to recognize some of the common themes across different sub-goals and goals. This would aid in bringing more synergy in policies and programmes targeting different SDGs. Synergy is evident in some of the SDGs and targets and this provides a window of opportunity for undertaking actions that contribute towards various synergized goals and targets thereby resulting in efficiency gains (Jiménez-Aceituno et al., 2020). Thus, it is important to identify such synergized goals and targets along with prioritizing appropriate and affordable policies, which can result in immediate progress towards these goals without adversely impacting the advances made towards other SDGs (Barbier and Burgess, 2020). These may include policies like promotion and financial support to cleaner fuels over fossil fuels, which are not only detrimental to the environment but also to health of the community. Governments, while strategizing for economic recovery should support and promote infrastructure and services, which boost job creation and align with transition to a low-carbon and green economy (Sachs et al, 2020). Efforts towards synergizing progress of different SDGs through similar strategies and planning, not limited to taxation only, can help make the recovery process more concerted and resource-efficient. Guidance for synergies can also be drawn from the six SDG transformations put forth by Sachs et al. (2019) for operationalizing the SDGs including education, gender and inequality; health, well-being and demography; energy de-carbonization and sustainable industry; sustainable food, land, water and oceans; sustainable cities and communities as well as digital revolution for sustainable development.



Photo Credit: "Water system handover" by ILO Asia-Pacific, licensed under CC BY-NC-ND 2.0.

Box 24: Carbon tax for supporting nature climate solutions in Costa Rica and Colombia

Costa Rica and Colombia have adopted tropical carbon tax, the proceeds of which are invested in natural climate solutions. Apart from reducing the usage of fossil fuels and promoting renewable energy, such a policy aids in mobilization of domestic funds for adaptation and mitigation, conservation of biodiversity, limiting tropical land use change, supporting ecosystem services, and supporting the rural and forest dwelling poor. Since 1997, Costa Rica has collected a 3.5 per cent tax on fossil fuels and now generates \$26.5 million per year. The fund is used for protecting the mature forests along with undertaking measures targeted at reforestation and agroforestry. Rolled out in 2016, Colombia's carbon tax of \$5 per tonne of emitted carbon yielded revenues of \$148 million in 2017 and \$91 million in 2018. A part of this fund supports management of coastal erosion, reducing and monitoring deforestation, conserving water sources, protecting strategic ecosystems and combating climate change, amidst others.

Source: Barbier et al. (2020)

The central role of governments in executing recovery strategies

To implement the adopted strategy, the national and sub-national governments across the globe would have to play a central role in its execution for bringing sustained societal, economic and environmental recovery from COVID-19. While doing so, governments may consider the following aspects:

Acknowledging and addressing the root causes

Acknowledging and addressing the root causes The interplay of various goals and targets at local level should be well understood for successful and informed planning and implementation of the strategies (Jiménez-Aceituno et al., 2020). In addition, it is imperative that governments, while building on the development gains, should understand, address and overcome the systemic risks, existing vulnerabilities, bottlenecks and distortions exposed by COVID-19. It is widely known that COVID-19 patients with comorbidities such as hypertension, diabetes, and cardiovascular disease are more likely to face severe health impacts than others (Sanyaolu et al., 2020). The collective efforts toward recovery must be mindful of and rectify the root causes and factors that have resulted in a vulnerable population, including factors like sedentary lifestyle, unhealthy food choices, and limited access to health infrastructure. Besides, governments should make efforts in adopting or adapting new realities and necessities highlighted by COVID-19, including aspects of physical distancing, avoiding crowding of public spaces in planning, designing and transforming public places, territorial development, urban planning, public transport management, and workplace management. (Sachs et al., 2020).

Monitoring and evaluation plays a key role in understanding

and identifying the root causes and underlying vulnerabilities of all sectors and all sections of the society. While addressing the root causes and underlying vulnerabilities, it is important to acknowledge and build on the efforts and knowledge of local communities and authorities through a bottom-up and inclusive approach, as argued in Principle Two. Different initiatives and interventions at the local level have been found to be useful and innovative in addressing problems and concerns pertaining to the SDGs (Jiménez-Aceituno et al., 2020).

Lifting up the most vulnerable

The Shared Responsibility, Global Solidarity Report by the UN Secretary General calls for "coordinated, decisive and innovative policy action from the world's leading economies and maximum financial and technical support for the poorest and most vulnerable ones" (United Nations, 2020a). To speed up and to strengthen the pandemic recovery, vulnerable households and businesses should be targeted with appropriate fiscal support (International Monetary Fund, 2020). Amidst others, efforts may include aspects of making public investments, increasing safety nets, equitable redistribution of income and regulation of industries for societal and environmental sustainability.



Photo Credit: "_WA_9171:Mahmuda Khatun, 30, lives in Barakuput village at Atulia union of Shyamnagar upazila in Khulna..." by UN Women Asia and the Pacific, licensed under CC BY-NC-ND 2.0.

Risk-informed policy making and budgeting

Amidst the financial constraints created by COVID-19, the envisaged policies for the recovery and post-recovery period should be cost-effective and must be designed for quick and effective implementation so that they yield immediate yet sustainable progress on the desired trajectory. The occurrence of other natural and human-induced hazards during the current pandemic has called the attention of the global community on the aspects of cascading risks, complex emergencies and compound disasters. Thus, the recovery policies and programmes should be cognizant of the existing and emerging risks. Box 25 highlights the importance of long-term systematic investment in critical infrastructure towards strengthening institutional resilience for disaster response and recovery.

Box 25: Systematic investment today is critical for better preparedness and response tomorrow in India

Kerala is an Indian state, which registered the first Indian COVID-19 case in January 2020. It has won wide accolades for its initial response and recovery rates of COVID-19. The key to Kerala's success in handling the COVID-19 crisis lies in its meticulous planning, which was drawn from the lessons learned from its battle to contain the Nipah virus outbreak. The state deployed a time-tested strategy, identifying cases, isolation, contact tracing and mapping vulnerabilities. This was possible due to Kerala's relatively efficient public health care systems, backed by strong a socio-economic foundation. The state has a decentralized public health-care system with localized facilities up to the ward level. The state has invested extensively and systematically in strengthening its health infrastructure in the past. Such systematic investment in the past helped the state in quick development of COVID First Line Treatment Centres and COVID-19 Care Centres. Furthermore, the state was able to promptly ramp up its testing and screening capacities over time by establishing facilities like local testing labs, and walk-in sample kiosks. This aided in undertaking active surveillance, setting up of district control rooms for monitoring, contact tracing, quarantine, isolation, hospitalization, infection prevention and control and extensive capacity-building of frontline workers, and risk communication during the COVID-19 pandemic. High literacy rate due to sustained investments and efforts in the education sector of the state further provided an enabling environment for effectively fighting against the COVID-19.

Sources: NDMA & CDRI (2020); World Health Organization (2020e),

Investing in research and innovation for building back faster while boosting SDG progress

Research and innovation play an essential role in the COVID-19 response. They are also important tools for supporting sustainable and inclusive recovery. They are instrumental in providing for science and technology-driven solutions and advancing the digital and ecological transformation of socio-economic systems (European Commission, 2020). A faster recovery prevents worsening of disaster impacts on the affected households by hastening the process of restoration, reconstruction, rehabilitation and the overall recovery; thereby allowing them to better save and consume the resources available to them (Hallegatte, Rentschler and Walsh, 2018). This is crucial as this will help to bring the affected communities and sectors back to normalcy sooner and thereby prevent further derailment of the SDG progress trajectory. Thus, investing in research and innovation can help in building back faster and shortening the duration of recovery while simultaneously accelerating the progress in achieving some of the SDG targets. Some of the innovations during the COVID-19 pandemic include cases of deployment of anti-epidemic robots by the UNDP Accelerator Lab and Rwanda's Ministry of ICT and Innovation for assisting frontline health workers fighting the pandemic, the development

of an online tool by UNAIDS in Thailand for monitoring and reporting case of violence and human rights violations during the pandemic, the launch of an e-commerce platform by UNDP and Jumia Food Uganda (a leading e-commerce company in Uganda) for connecting micro, and small and medium-size businesses with consumers (UN Innovation Network, 2020).

Box 26: UN COVID-19 Response and Recovery Fund

The UN Secretary-General has established the UN COVID-19 Response and Recovery Fund, an inter-agency fund mechanism for providing financial assistance to low- and middle-income countries. The Fund is envisaged to help the most vulnerable in better responding to COVID-19 and addressing the impacts and disruptions triggered by it. The Fund contributes to three key objectives; namely, tackling the health emergency, focusing on the social impact, and the economic response and recovery, as well as helping countries recover better.

Under the aspect of mitigating socio-economic impact and safeguarding people and their livelihoods, one of the key areas of focus is on promoting digital innovations that boost employment, support livelihoods and improve the provision of social services in line with COVID-19 response measures.

Source: (United Nations, 2020c)

Summary

The interplay of COVID-19 and the SDGs is a two-way process. While the former has impacted the progress of SDGs, the progress made in the latter has influenced the severity of the COVID-19 impacts. This is critical to understand both for making the recovery process sustainable and for recognizing that the efforts towards overcoming the backsliding, preserving the gains and advancing the SDGs' progress are indeed efforts towards preventing or mitigating the adverse impacts of future disasters and building resilience towards future shocks.

- Establishing a strong monitoring and evaluation system with localized parameters for SDGs and temporal mapping of the SDG targets.
- Invest in innovation for making a robust public services delivery system to achieve sustainable and inclusive economies that is inclusive and safeguard country SDG programmes from COVID-19-related backslidings.
- Identify and acknowledge the root causes of vulnerability and inequality in the society and their bearing on the achieving targets set by SDGs. These underlying factors can become the overarching goals to work upon during the recovery process for achieving a sustainable society.
- Investing in research and innovations can support building back faster and prevent further backsliding of SDGs.

Principle Six: Greater Regional and Global Solidarity

Introduction

The COVID-19 pandemic has highlighted that, in the current interconnectedness of global economies and societies, the strength of the global community is determined by that of the weakest health system (United Nations, 2020b). No country would be able to exit this unprecedented emergency alone and thus, the transboundary nature of the pandemic calls for borderless solidarity. Geo-political solidarity is required for bringing global and regional transparency, trust and cooperation in responding to and recovering from the COVID-19 pandemic, subsequent waves of infection and similar future disasters.

Guided by Principle One which underlines that recovery should begin during response, it is evident that solidarity and collaboration is required to effectively suppress the spread. It is worth noting that the same vigour in solidarity needs to be sustained through recovery for addressing the exposed systemic risks and underlying vulnerabilities in today's connected societies and empowering the most vulnerable and at-risk populations. Such global solidarity and collaboration is also underscored in the International Health Regulations, an agreement between 196 countries including all WHO Member States to work together for global health security (World Health Organization, 2005).

Borderless collaboration and solidarity cannot be done away in such inter-connected and co-dependent globalized societies. In today's society one nation alone cannot contain the virus and its impacts within its geo-political borders without adverse impacts on normal functioning of its social and economic institutions, businesses and supply chains. This, more than anything else, necessitates the coordinated and collaborative actions for response to the COVID-19 pandemic

and resilience building for future disasters. Not every nation is well-placed in individually responding to all aspects of pandemic response and recovery, but every nation more likely can complement one another in aspects of research, innovations, financial capacity, technical knowhow, food security, access to life saving medicines, adequate workforce, and experience of managing past pandemics. For example, many developing nations have great potential to complement each other's efforts in the field of agricultural value chains thereby providing a window of opportunity for regional cooperation in this sector (Kozul-Wright, 2020). The multi-sectoral impacts of the pandemic have necessitated cooperation beyond the medical and healthcare sector. While there is continued inflow of essential goods including food and medicines in one country or region, the pandemic may have disrupted and adversely affected businesses and economy of the producer and exporter countries and region. Regional cooperation can help respond to both the pandemic shock and the economic shock (Kimura et al., 2020).

Regional and global solidarity should be supported by national solidarity through the whole-of-society approach involving actors of all sections and all sectors, including policy makers, administrators, the private sector, academicians, businesses, non-governmental organizations, civil society organizations, philanthropists, communities and individuals. Efforts in strengthening the existing regional or global mechanism or putting in place new ones are envisaged to build an ecosystem not only limited to responding to the COVID-19 pandemic, but one, which supports the creation of sustainable and resilient institutional, geo-political and societal collaborations for preventing, mitigating and managing similar future shocks.

Enhancing COVID-19 recovery through regional and global solidarity

Key sectors of priority for recovery planning may slightly vary from one nation to another, and accordingly a nation can map their bilateral, regional and global partners for the respective sectors. On one the hand the pandemic has created greater need for humanitarian assistance for managing and recovery, on the other it has adversely affected such assistance programmes and initiatives in both quality and quantity (Oxford Analytica, 2020). This has resulted in exacerbation of vulnerabilities of at-risk nations and their populations to not only current pandemic but also future disaster and climate shocks (ibid). At this juncture, it is important to capture the opportunity of strengthening cross-border cooperation for addressing the transboundary risks, structural challenges and enhancing sustainability and resilience (ECA et al., 2020). In addition, the UN Report on shared responsibility, global solidarity lays emphasis on global research and innovation, amidst others, for accelerating the global response to COVID-19 (United Nations, 2020b). Thus, broadly the key pillars supporting a collaborative COVID-19 recovery and a resilient global partnership for managing future disaster and climate risk should include what is outlined below.

Coordinated health response and recovery

Strengthening of existing health infrastructure and building robust capacities for supporting surge in testing, treatment and healthcare services should be collaboratively worked on for management of the current and future pandemics. CDRI and UNDRR (2020) identified insufficient investments in health prevention, lack of focus on biological hazards, lack of



Photo Credit: "A Royal Australian Air Force C-17A Globemaster III from No. 36 Squadron at RAAF base Amberley delivered 12 pallets of humanitarian aid to Port Villa, Vanuatu, in support of the disaster relief efforts of the Government of Vanuatu" by Department of Foreign Affairs and Trade website, licensed under CC BY 4.0.

network datasets and reporting systems, and uneven access to healthcare services and technologies due to pre-existing inequalities as among the underlying factors of the vulnerability of health infrastructure. Collaborative efforts in research and development of vaccine and effective therapeutics along with equitable distribution and affordable accessibility can go a long way in ensuring early and universal access of the global community to vaccine and medicines. Regional collaboration and cooperation in the health sector can play a critical role in undertaking joint research and development initiatives for developing lifesaving drugs and medical supplies (Kozul-Wright, 2020). Such cooperation can help in effective knowledge sharing along with ensuring easy and affordable accessibility and availability for at-risk nations and populations (ibid). Development of vaccines should be supported by effective distribution mechanisms, proper guidelines, capacities assessment, and communications strategies. (USAID, 2011). In addition to the immediate response, collaborative efforts should be continued for sustainable and resilient recovery from the COVID-19 pandemic. There is a need for sustained efforts for strengthening and building robust health surveillance systems for enhancing early warning systems for future health emergencies. Such systems should be based on the 'One Health' approach, which envisages integration and collaboration among various sectors like those involved in medical health, public health, animal health, and food safety, among others towards achieving improved health and public health results (World Health Organization, 2017). Recognizing the importance of accelerating actions on health as underscored by the pandemic, the WHO Global Action Plan Healthy Lives and Well-being for All promotes joint support and stronger collaboration for better health in the following areas: primary health care; sustainable financing for health; community and civil society engagement; determinants of health; innovative programming in fragile and vulnerable settings and for disease outbreak responses; research and development, innovation and access; and data and digital health (World Health Organization, 2020h).

Box 27: Pacific Public Health Surveillance Network

The Council of Regional Organisations in the Pacific of the Pacific Community (SPC) is focal point for the Pacific Public Health Surveillance Network. The Pacific Public Health Surveillance Network (PPHSN) includes six services towards epidemic prevention and response. These are “coordination of laboratory services, surveillance systems, infection control, alert and communication, knowledge exchange and capacity building”. The SPC has undertaken training programmes targeted at COVID-19 in various countries through its staff. The training caters to various aspects like identification of cases, tracing the contact, controlling infection and outbreak, undertaking in-country assessment, and coordination.

Source: Pacific Community (2020)

Box 28: Africa Pandemic Response Exchange Platform (APREX)

The Africa Pandemic Response Exchange Platform (APREX) has been established by the Economic Commission for Africa (ECA) in collaboration with the African Export–Import Bank. APREX showcases regional collaboration and partnership in resource pooling and efficient utilization of resources. This is done by undertaking measures like collating and pooling of the supply and demand of medical equipment and other supplies pertaining to COVID-19 including PPE, masks, and testing kits.

Source: ECA et al. (2020)

Box 29: Need for vaccine management - Lessons from H1N1 Influenza Vaccine Management

This case study highlights the need for effective and comprehensive vaccine management through coordinated planning and implementation among the involved stakeholders. The WHO-led global immunization initiative for the 2009 H1N1 Influenza was being supported by USAID. WHO was responsible for provision of vaccines to the countries, while USAID was to fund the provision of ancillary products like syringes. However, due to lack of or inadequate planning on country-wise vaccine allocation, appropriate planning for supply chain and logistics management could not be timely undertaken. Subsequently, such avoidable delays resulted in opting for uneconomical and inappropriate decisions like that of using air transport for delivery of ancillary products, distribution of vaccines without required guidelines and communication campaigns. The absence of proper planning and coordination for comprehensive vaccine management is believed to have negatively affected envisaged effectiveness of the immunization initiative as per various anecdotal observations.

Source: USAID (2011)

Recovery planning on a regional or global scale

Recognizing the clarion call by the UN Secretary General for regional and global solidarity, recovery planning at all levels should make the best use of existing national, regional and global platforms and should strive to address the existing bottlenecks and irritants in bilateral and regional relationships.

Principle Five underscores that the SDGs provide a comprehensive framework for recovery from COVID-19. Similarly, the UN Sustainable Development Cooperation Framework, which is a partnership for achieving the Agenda 2030, can be a suitable guide in bringing national, regional and global solidarity for recovery planning. As the Cooperation Framework is nationally owned and articulates highest priority and most suitable development choices for a country, it can provide a common ground for convergence and collaboration for bilateral, regional and global partnerships (United Nations Sustainable Development Group, 2019). Moreover, the Cooperation Framework is guided by the six principles leaving no one behind, Human Rights-Based Approach

to development, gender equality and women's empowerment, resilience, sustainability and accountability (ibid). Through this, all stakeholders involved in vertical and horizontal partnerships are guided and unified by common principles for planning recovery.

Recovery planning at all levels right from sub-national to global should be cognizant of existing vulnerabilities and risk factors for building back better (Box 30). However, this calls for increased cooperation and collaboration for better understanding of risk, assessing risk as well as data and information sharing through an effective balance of traditional knowledge, emerging technologies and innovation.

Box 30: C40 Global Mayors COVID-19 Recovery Task Force and Agenda for Green and Just Recovery

Mayors from 40 major cities around the globe have launched the Global Mayors COVID-19 Recovery Task Force for rebuilding their cities and economies in a way that improves public health, reduces inequality and addresses the climate crisis. They recognize that COVID-19, beyond a global health crisis, is a social and economic crisis with long-term effects. They have resolved not only to return to normalcy, but also to build a better, more sustainable, more resilient and fairer society out of the COVID-19 crisis. The Task Force's joint strategy for supporting recovery of cities and their residents is governed by nine principles, which target aspects of public health and scientific expertise, excellent public services, public investment and increased community resilience, addressing issues of equity exposed by COVID-19, improving resilience of cities and communities, climate action for aiding to accelerate economic recovery and enhance social equity. Besides, they committed for using collective voices and individual actions for ensuring that international and regional institutions invest directly in cities for supporting healthy, equitable and sustainable recovery. Further, the Task Force has launched C40 Mayors Agenda for a Green and Just Recovery which focuses on creating green jobs, investing in crucial public services, protecting mass transit, supporting essential workers and giving public spaces back to people and nature.

Source: C40 (2020)

Collaborative data and knowledge management for promoting science, technology, and innovation

Coordinated regional and global efforts should be made towards generating and sharing data, situation assessments, information, knowledge and lessons learned for supporting informed and evidence-based decision-making. To achieve these efforts, it is crucial to have in place standards for data sharing and adequate capacity building and technical assistance to the involved stakeholders. Data access and sharing is of more significance now since frameworks like the Sendai Framework for Disaster Risk Reduction and the SDGs require monitoring progress made towards respective

targets and indicators. Global mechanisms such as the Sendai Framework Monitor⁶ exist for data sharing, national comparisons and regional analysis which can provide a common ground of understanding. Moreover, open and easy access to accurate information can in turn support various crucial aspects of Principle Eight.

Box 31: cOAlition S

cOAlition S is an initiative, launched in 2018, to make full and immediate open access to research publications a reality. It signals the commitment to implement the necessary measures to fulfill its main principle—"With effect from 2021, all scholarly publications on the results from research funded by public or private grants provided by national, regional and international research councils and funding bodies, must be published in open access journals, on open access platforms or made immediately available through open access repositories without embargo". cOAlition S funders (a group of national research funders, international organizations and charitable foundations) have agreed to implement the ten principles of Plan S in a coordinated way, together with the European Commission and the European Research Council. Other research funders from across the world, both public and private, are invited to join cOAlition S. WHO was the first UN agency to join cOAlition S in 2019 to make health research free and immediately accessible.

Sources: WHO (2019); and European Science Foundation (2020)

COVID-19 has highlighted the critical role of global collaboration on the frontier of science, technology and innovation. Collaboration in data and knowledge sharing is needed for advancing this. Global research and innovation hold the key to early development of vaccines, therapeutics, as well as low-cost medical equipment and supplies. The global challenges and their local manifestations can be addressed by supporting collaborative research, enhancing global and regional mechanisms for prompt sharing and dissemination of knowledge right from global to local level (Kituyi, 2020). Open access data, knowledge and science can support quick and free access to available technical and scientific knowledge globally, which can also benefit the LDCs, SIDS, and fragile states.

Regional and global financial cooperation

The unprecedented economic challenges posed by COVID-19 to countries across the globe should be overcome by financial cooperation (Boxes 32 and 33) and policy coordination among regional and global partners. Existing financial cooperation mechanisms, like the ASEAN+3 Financial Cooperation Process, should be strengthened and effectively used for monitoring economic and financial development in the region and for undertaking consultation exercises for understanding the macroeconomic conditions of the region for informed decision-making and for crafting response

6 <https://sendaimonitor.undrr.org/>

and recovery measures (Pitakdumrongkit, 2020). For addressing and mitigating the economic fallout of COVID-19, there is a need for targeted support to the sectors of economy that have been hit hardest such as tourism, hospitality, and aviation. Moreover, focused support for the micro, small and medium enterprises sector and the informal economy of each nation, which has been disproportionately affected by the crisis due to inadequate coping capacity to absorb the shocks, is also crucial (ECA et al., 2020).

Box 32: COVID-19 Solidarity Response Fund

In March 2020 WHO, United Nations Foundation and the Swiss Philanthropy Foundation launched the COVID-19 Solidarity Response Fund for enabling individuals, corporations and institutions to join hands for global response efforts. The fund is expected to support donations and efforts by WHO and partners, like UNICEF, WFP, UNHCR, and the vaccine development alliance Coalition for Epidemic Preparedness Innovations. This includes tracking of and understanding the spread of the virus, supporting provision of healthcare to patients and of supplies and information to frontline workers, and accelerating research and development of vaccine and treatment. As of 4 September 2020, the fund has raised or committed over \$234 million from more than 568,000 individuals, companies and philanthropists.

Source: United Nations Foundation (2020)

Facilitated trade, movement of goods, and movement of people across borders

Coordinated strategies and efforts should be undertaken for ensuring smooth and easy movement of medicines, medical equipment and supplies as well as food and other essential goods across regional and global borders. The pandemic provides an opportunity to revisit trade policies, dismantle trade barriers, maintain open trade and re-establish supply chains at regional and global levels (United Nations Foundation, 2020). While it is the need of the hour to facilitate the essential movements of goods, services and people, any measures taken in this regard should not undermine the emergency protocols for suppressing the transmission of virus. At the same time, such emergency protocols should duly abide by existing trade rules and policies, and the principles of transparency and appropriateness (Asia Pacific Economic Cooperation, 2020).

Emergency or pandemic recovery measures such as huge financial subsidies by developed nations have the potential to adversely distort the prevailing international trading systems (Kozul-Wright, 2020). Developing countries do not have capacities to roll out similar financial packages and subsidy programmes and would instead need to undertake adequate strategic and policy measures for handholding of vulnerable sectors (ibid). Against this backdrop, suitable trade agreements and other regional cooperation mechanisms among the developing nations should be undertaken for creating collective opportunities like diversified markets. (ibid).

Box 33: Joint Statement of Asia-Pacific Economic Cooperation (APEC) Ministers responsible for trade on COVID-19

The joint statement recognizes the importance of keeping markets open and working together towards a free, fair, non-discriminatory, transparent, predictable and stable trade and investment environment. The ministers are committed to facilitate flow of goods, services essential for fighting the pandemic including medicines, medical supplies, equipment, and agricultural and food products across borders and to minimize disruptions to global supply chains. While encouraging economies to pursue facilitative measures for expediting the economic rebound, APEC is developing a coordinated approach to collect and share information on policies and measures undertaken for immediate response and long-term recovery from COVID-19. This approach of regional sharing aids in seeking recommendations from the regional Business Advisory Council and also in strengthening the response of the region by learning from the initiatives of member countries. Besides, the members highlight the importance of coordinating with partners and counterparts in the global community as well as with the private sector and academia for managing the pandemic in a dynamic, innovative and timely manner.

Source: APEC (2020)

Summary

Regional and global solidarity is not aimed for homogenizing but for bridging the differences and connecting diverse peoples and countries and their interests in mutually respectful, beneficial and reciprocal relations, following the principles of human rights, equity and justice (Puvimanasinghe, 2013). The current testing times must be seized as an opportunity to promote regional and global solidarity with an increased vigour.

- Regional and global solidarity can pave the way for stronger and more concerted efforts towards preserving the development gains and ensuring recovery, which is resilient and sustainable. Regional and global solidarity for recovery planning at all levels should underpin the human rights principles of universality, indivisibility, equality and non-discrimination, participation as well as accountability.
- Collaborative efforts can help support the most vulnerable LDCs, SIDS and fragile states, expand their capacities and narrow the existing developmental divides and gaps.
- Effective use of existing bilateral, regional and global platforms and partnerships should be made for all critical aspects, like understanding existing and emerging risks, early warning and alert generation, sharing of data and information, collaborative learning, strategic planning, research and innovation, pooling of resources and finances as well as building back better for a sustainable future.

Principle Seven: Institutionalize Effective Coping Mechanisms

Introduction

Despite having systems and structures in place, COVID-19 still caught governments unprepared, with many sectors, organizations and individuals resorting to quick response actions, sometimes untested, to protect lives, business and livelihoods as well as to prevent backsliding of development gains. Coping strategies developed as the pandemic progressed. These comprise remedial actions undertaken by people and organizations whose survival and livelihood or business are compromised or threatened by shocks, impacts of disasters and other changes in life situations. Such strategies are often influenced by socio-cultural factors and have contributed to effective response. They also offer alternatives that could inform or set the course for actions in the long-term and have created secondary benefits to the environment.

Effective coping strategies in the COVID-19 response

Many of the coping strategies and mechanisms that individuals, organizations and societies have developed and applied in response to the pandemic have benefits that may pay dividends towards recovery and longer-term resilience.

Social protection schemes

To encourage stay-at-home behaviour during lockdowns and to prevent worsening of living conditions, governments provided food and financial aid as well as unemployment assistance to vulnerable populations and low-income workers through vouchers and cash transfers via mobile money and digital finance.

Box 34: Social Protection Measures in Asia-Pacific

The actions of governments on social protection have been unprecedented. Among the common social protection measures announced in the Asia-Pacific region are:

1. Introducing benefits for workers and/or dependents.
2. Introducing benefits for poor/ vulnerable populations.
3. Increasing benefit levels.
4. Introducing subsidies, deferring, or reducing the cost of utilities.
5. Deferring, reducing, or waiving social contributions.
6. Extending coverage.
7. Introducing subsidies to wages.
8. Increasing resources/budget allocations.
9. Relaxing or suspending eligibility criteria or conditionalities.
10. Introducing benefits for all citizens or residents.

The majority of the measures are new schemes, which are in the form of cash or in-kind payments as well as waivers, postponements or subsidies to social security contributions, tax payments utility bills, rents and mortgages. Seventy-five per cent of the measures are non-contributory schemes, with the remaining linked to contributory schemes.

Source: International Labour Organization (2020)

Online technologies

Because of mobility restrictions online technologies and related platforms for e-commerce, e-government, digital finance, telework, telemedicine as well as distance learning became essential tools in dealing with the socio-economic consequences of the pandemic (Beunoyer et al., 2020). Digital platforms have allowed economic activities to continue, education to resume, and social interactions to be maintained.

Community-led actions

Community-led initiatives advanced frontline responses, such as setting up of community kitchens and food banks, community surveys and monitoring to track the spread and impacts of the virus, disseminating accurate information, raising funds and providing cash assistance, and using community savings and credit groups as well as developing systems for exchanging basic goods and necessities between communities or networks (World Bank Group, 2020a). This commitment of home-grown self-help groups is effective because they built on community culture and trust as well as collective sources of support and practical resources, among others (Bavel et al., 2020; Gomez, 2020).

Urban food systems

City governments undertook measures to ensure food security, such as food distribution at the neighbourhood level, establishment of food hubs and mobile wholesale market service distribution, utilizing e-commerce, social media, mobile applications and informal networks for food distribution, home delivery channels, mobile food pantries as well as education campaigns for responsible food purchase and consumption, and urban gardening (World Bank Group, 2020a).



Photo Credit: "Students are homeschooling and studying online" by Piemsuk Wanichupatumkul, ILO Asia-Pacific, licensed under CC BY-NC-ND 3.0 IGO.

Box 35: Local Governments' Actions on Urban Food Systems in Latin America

Local governments in Latin America implemented food systems-oriented actions to mitigate the effects of lockdowns and food distribution disruptions on food security and nutrition as well as to enable continuous flow of food. Some examples are:

The municipality of Quito in Ecuador facilitated access to food through: i) food hub mobile units utilizing municipal buses; ii) partnering with food banks; iii) communication campaign for responsible food purchasing and iv) mapping of food access vulnerability.

The municipality of Lima in Peru supported the decentralization of food shopping. A mobile wholesale market service was established to distribute food in eight districts of the Lima Metropolitan area. The city also worked with the Municipal Enterprise of Market to monitor market prices.

The municipality of Medellin in Colombia mobilized resources for the sale and distribution of food from farmers' markets, in coordination with rural producers and private organizations.

In Montevideo in Uruguay citizens and local organizations implemented a traditional model of home deliveries of food, fruits and vegetables called "ollas populares" – some directly from producers to consumers, with priority to vulnerable groups.

In Brasília, Caixias do Sul and João Pessoa in Brazil popular and community restaurants maintained operations and expanded distribution to reach marginalized populations. Direct serving of meals was replaced by packed meals for takeaway.

The municipality of Chía in Colombia created a space for those who wish to donate non-perishable food. People can donate without leaving their homes by using a digital platform or a municipal call centre dedicated exclusively for this initiative.

Source: FAO (2020a)

Do-It-Yourself manufacturing

Volunteers responded to healthcare equipment shortages by developing emergency do-it-yourself (DIY) medical equipment (e.g., personal protective equipment such as face masks, face shields, and gowns) in consultation with public health professionals. Open-source design as well as civic cooperation and co-production were vital in enabling communities to contribute to healthcare emergency solutions (Richterich, 2020).

Box 36: DIY in Benin, Africa

In Benin, Africa where importing goods became a challenge, entrepreneurs developed local innovations on DIY manufacturing. These include the following:

Masks and 3D-printed protective gear were developed with support from a government-United Nations consortium.

Atingan is a start-up company which produces eco-friendly stoves but has switched to making handwashing stations

operated by pedals to minimize contact.

The Alodo Initiative is composed of a group of fashion designers that produced medical-grade masks from locally available fabrics. They have sold millions of masks, some by the government to distribute in schools.

Source: World Bank Group (2020a)



Photo Credit: "Harare – Zimbabwe: A woman working in a face mask manufacturing shop at a downtown factory shows off a newly completed mask" by KB Mpofu / ILO, licensed under CC BY-NC-ND 2.0.

Collaboration with civil society, private sector and academia

The COVID-19 response and recovery saw a growing partnership between the public and private sectors in delivering essential services and information. Examples include telecommunication companies providing increased Internet coverage and mobile data incentives, bus companies giving free shuttle service to front liners, universities undertaking data analytics and research on COVID-19 and local non-government organizations organizing community kitchens, mobile markets and fund-raising activities. These partnerships opened doors for increased collaboration in the future.

Mechanisms for institutionalizing effective coping strategies

Coping implies that one has little control of a situation, and does not have the resources to manage. Institutionalization would therefore mean to provide the required resources, infrastructure and processes that would enable people and organizations to build adaptive capacities in the long-term by using these coping strategies. Institutionalizing effective coping strategies used during response has merit because of the positive impact and transformative role they have played. These would be separate strategies from the institutionalized recovery strategies, which are already in place. The existing mechanisms below are identified to facilitate and advance the institutionalization of identified effective coping strategies during recovery.

Social protection

As Principle One and Two have discussed, social protection programs, when continued in the long-term, can provide safety nets to the poorest and the most vulnerable. Disasters and other shocks make it more difficult for populations living in poverty and vulnerability to meet their basic needs necessitating governments to

guarantee income, food security and basic services.

Box 37: Latin America and the Caribbean Regional Agenda for Inclusive Social Development

The Regional Agenda for Inclusive Social Development, adopted by the member states of the Economic Commission for Latin America and the Caribbean (ECLAC) in 2019, puts forward lines of action to achieve a set of universal guarantees for social well-being according to national capacities. It includes proposals for moving towards a universal guarantee of a basic income level and assessing the possibility of gradually incorporating a universal transfer for children and a citizen's basic income into the countries' social protection systems. The Regional Agenda also proposes that social institutions are strengthened to implement high-quality social policies. For the planning, design and implementation of social protection measures it is important to protect public social spending and to have information, monitoring and evaluation systems for social entitlements, including records of the target or potential target population, that are as comprehensive and up-to-date as possible.

Source: ECLAC (2020)

Digital transformation

A higher investment in a digital ecosystem, which is a dynamic, interconnected network consisting of various organizations, applications, third-party data service providers and all their respective technologies, would allow better access to services, resources and information – and their potential benefits – which can drive a transformation towards global sustainability, environmental stewardship and human well-being (Beaunoyer, Dupéré and Guitton, 2020; International Telecommunications Union, 2020). Taking advantage of the digital revolution will be important for recovery because an integrated digital ecosystem can drive organizational processes more efficiently by creating end-to-end flows including application and data integration. This will improve assessments that will inform institutional and policy-setting, coordination among partners, implementation as well as monitoring and evaluation.

Land use and spatial planning

Cities became the frontline in COVID-19, and revealed gaps in urban planning. For example, the suspension of transportation necessitated the establishment of temporary bike lanes in areas where previously there were none. Mobility restrictions confined people in the vicinity of their homes where urban green spaces may be absent. For countries where bikes lanes and urban green spaces were prioritized in development spatial planning, these contributed to people's coping strategies. Recovery offers an opportunity to revisit urban policies to enhance resilience and to make cities smarter, greener, sustainable and more inclusive (UNESCO Cities Platform, 2020). Land-use planning and zoning regulations can inform the separation of high-risk areas from other land uses and the design of districts that will reduce contact and ensure public safety as well as walking and

cycling networks that link different neighbourhoods (World Bank Group, 2020b). Any future design concerning cities should consider better management of space with priority to public and open spaces as well as urban interconnectedness, where inadequate access or interruption of services can manifest vulnerability (UNESCO Cities Platform, 2020). Transforming cities would entail them being less crowded with more local open space and with more of locally available resources (Constable, 2020). Prioritizing investments in upgrading informal settlements through infrastructure and service delivery would also be helpful in building community resilience (World Bank Group, 2020b).

Box 38: Slow Streets Movement Make Cities More Bike-friendly in USA

The Slow Streets Movement was initiated as a response to COVID-19 public health guidance on physical distancing. Roads that are closed and streets with low traffic prevent overcrowding of public parks, trails and sidewalks and allow people to explore their communities more through walking, jogging and biking. Over 291 cities, regions and countries are reported to have created safer, people-friendly street initiatives. The Slow Street Movement takes advantage of findings from a survey, which indicates that most trips are short, and close to home so many people can walk or bike around their communities.

This movement has been instrumental in reshaping cities across the United States. As an example the City of Oakland in California closed 74 miles of its streets in March 2020 (10 per cent of the city's entire street grid) to through-traffic. Although these streets remained open to local vehicles in search of a parking space they were prioritized for Oakland residents travelling by foot or bicycle.

Source: World Bank Group (2020a)

Localization

Local actions became a coping strategy while local governments and communities endeavoured to mitigate the further impacts of COVID-19. Localization involves domestic production and supply of goods and services. It also entails focusing on scaling up local financing through private investment and other sources since government budgets are stretched and international humanitarian funding is limited. Local actions should be encouraged during recovery where urban agriculture is prioritized, short supply chains (buying from closer sources) are promoted and rural-urban linkages to adequately support food systems are strengthened. As economies slowly reopen domestic tourism and local employment can be prioritized. (UNESCO Cities Platform 2020; World Bank Group 2020a)

Urban agriculture

Food is increasingly being produced in urban areas as a coping strategy. Urban agriculture policies can provide an enabling environment to scaling it up even further during recovery. This has huge potential benefits as a source of income and food for households as they

recover from the pandemic while having important environmental sustainability impacts. In addition, it provides an opportunity to reduce consumption of imported products, reduce transportation and logistical costs and generates livelihood and employment, especially for the urban poor (World Bank Group, 2020b). This underlines the importance of local food systems – urban and peri-urban food production, processing and maintenance of local food reserves – for food security, sustaining livelihoods and building resilience (FAO, 2020a).



Photo credit: "Urban farming in Ghana" by Nana Kofi Acquah for IMWI, licensed under CC BY-NC-ND 2.0.

Partnership

Many partnerships were formed during the pandemic as a coping strategy because both public and private sectors have been challenged at different fronts. Partnerships are vital in bringing together all the key actors in the implementation of recovery. Recovery and future preparedness plans would benefit from a multi-stakeholder partnership that brings to the table different expertise and resources to address the varied sectoral impacts of COVID-19.

Volunteerism

Communities' activities demonstrate the potential of civic innovation. However, this volunteerism reveals systemic issues and broader social implications, for example government's failure to ensure healthcare supplies that should be addressed in recovery. Volunteers' efforts can make a huge contribution, but they should

not replace preparedness measures by mandated actors.

Social innovation

Social innovation aims to develop and deploy effective solutions to social and environmental problems. It facilitates collaboration among different stakeholders to co-create initiatives that address challenges in recovering from COVID-19. It also promotes participation in the recovery process while targeting specific needs of the most vulnerable populations.

Summary

Valuable coping strategies have emerged during the COVID-19 response and offer options for institutionalizing them to secure their benefits for recovery and beyond. Among these are social protection schemes, online technologies, community-led actions, urban food systems, DIY manufacturing as well as collaboration with CSOs, private sector and academe. Existing mechanisms are in place that can support institutionalization during recovery, including social protection, digital transformation, land use and spatial planning, localization, urban agriculture, partnership, volunteerism and social innovation.

- Populations living in poverty and vulnerability need social protection to prevent serious deterioration in living conditions.
- Marginalized groups can gain benefits from digital transformation through access to information, services and resources.
- Participation of communities and volunteers provides much-needed frontline support but issues that require them to step in in the first place need to be addressed by the government.
- Partnerships are key to recovery due to the systemic impacts of COVID-19.
- Transforming a city with a health lens requires insights and innovations from urban planning and design, technology, placemaking and sociology, among others, to make cities resilient and sustainable.



Photo credit: "Social Distancing in the Market" by Sambrian Mbaabu/World Bank, licensed under CC BY-NC-ND 2.0.

Principle Eight: Effective Risk Communication

Introduction

Risk communication is an integral component of public health risk management (PAHO, 2010). As defined by the WHO, it is “the exchange of real-time information, advice and opinions between experts and people facing threats to their health, economic or social well-being” (World Health Organization, 2020b). The real-time access and exchange of information are important so that everyone at risk is able to make informed decisions and take correct actions to prevent, mitigate and recover from emergencies (World Health Organization, 2019). International health regulations state that risk communication is at the core of mitigating the effects and outcomes of health events and emergencies (World Health Organization, 2005). The WHO places health as a human right and a social justice. In this regard, informed opinion and active cooperation on the part of the public are of the utmost importance for the health and well-being of the people.

The COVID-19 pandemic is a rapidly evolving situation in which health professionals are constantly learning and dynamic adjustments in government policies have been implemented. High rates of infection, significant morbidity and lack of treatment measures became the concoction for the spread of panic, fear, distrust and rumours. The WHO Director-General Tedros Adhanom Ghebreyesus stated that COVID-19 is as much a pandemic as it is an infodemic. Risk perceptions drive the behaviour of the community and influence policy making through socio-political pressures. Since the nature of the prevention against COVID-19 depends on preventive health behaviour, it is vital that the correct behavioural

adjustments are complied with by all the members. Effective risk communication gauges the public perception of risk in a broader socio-cultural perspective and helps the policymakers in putting in place advisory guidelines. In a respiratory pandemic like COVID-19, direct community engagement is limited due to the transmission mechanism of the disease. This requires adoption of innovative approaches for risk communication, which are relevant and context specific as per the community needs. This would require focused dialogue with the community to devise recovery strategies.

Essentials of risk communication

The essentials introduced in this chapter are in line with and complement WHO’s guiding document on “Risk Communication And Community Engagement Readiness And Response To Coronavirus Disease” (World Health Organization, 2020f), the “COVID-19 Global Response Risk Communication and Community Engagement (RCCE) Strategy” developed by IFRC, UNICEF and WHO (World Health Organization, 2020a). and lessons learnt during SARS and Ebola virus outbreaks (World Health Organization, 2018). This chapter extracts the key elements, which must be part of risk communication strategy for the recovery. Additionally, some of the questions to keep in mind are:

- Who are the stakeholders in information dissemination?
- Is there coordinated risk communication strategy among all departments/sectors?
- What is community perception of the risk?
- How should community members be engaged in risk communication strategies?
- Is the message clear and relevant to the social context?
- How can panic be curbed and re-assurance provided?
- How should limited information be dealt with and how can trust be built amidst uncertainty?
- How can the right message assuredly reach the right audience?
- What are the current and future capacity needs to enhance risk communication?

These essentials intend to support the development of comprehensive, actionable strategies for application in pandemic management, which will increase adherence to COVID-19 guidelines, and result in successful adoption of behavioural and policy changes. The key essentials as listed below are recommended to be followed in devising an effective risk communication plan.

Collaboration and coordination

Strong relationships with key stakeholders enable information dissemination in a structured way. Investing in pre-crisis relationships helps in coordinating and relaying information at a faster pace (Balog-Way & McComas, 2020). It also allows for knowledge sharing and curbing of fear and panic among community members. As observed during the SARS epidemic, the news media is an important stakeholder and there is a need to maintain constant relationships with news media (ibid) so as to ensure reporting of accurate messages and curb fear and panic. Social media comprises widely recognised platforms with enhanced engagement in post COVID-19 due to increase in use of digital media for marketing and business. Use of social media enables wider reach of public health messages and establishes interaction with the community. Multiple forms of



Photo Credit: “Karelis María Pérez Serrudo (centro) comentó sobre su experiencia como beneficiaria del programa ECW. Contó que su hijo Ángel, de 7 años, se encuentra estudiando y mantiene buenas notas” by UNICEF/ECU/2020/Carrera, licensed under CC BY-NY-ND 2.0.

social media platforms, including Facebook, Twitter, Instagram and YouTube videos, are being used for information dissemination. Relationships with the media have to be proactively developed by public health authorities and maintained on a long-term basis. A combined use of news media and social media through the use of creative and innovative hashtags aids in message clarity.

Box 39: Social Media Campaign in Sri Lanka with UN

The UN in Sri Lanka has created the social campaign #HumansofHopeSL to promote a narrative of resilience, solidarity and positivity. With a reach of over 5 million followers, Sri Lankans share stories supporting the recovery and combating stigma on Facebook, Twitter and Instagram. It has also mobilized big data analytics for real-time tracking and tracing of online misinformation.

Source: United Nations (2020d)

Policy coordination

Every country's context presents a unique set of cultural, social, political and economic factors that challenge it with different response and recovery planning needs according to the severity and impact of the COVID-19 outbreak. To address the challenges of rapidly changing situations in pandemics, such as COVID-19, new and innovative forms of decision-making and partnerships are needed to account for inter-relationships between disease, environment, economy, politics, behaviour and values. (Bardosh et al., 2017). Health advisory and communication policies thus need to be integrated with other sectoral plans and policies. Public information activities should be coordinated among stakeholders to avoid disseminating conflicting information. It requires strategies that are co-created and co-implemented by local authorities and local communities to ensure minimal socio-economic impacts.

Box 40: CEPREDENAC Online Platform for Coordination

The Coordination Center for the Prevention of Disasters in Central America and the Dominican Republic (CEPREDENAC) has created a digital platform to collate information from the region, to enhance national capacities and to provide for strategic targeting of intervention. The digital portal collects the region's information on the confirmed cases, recoveries, deaths, affected population, response strategy, hospitals, isolation centers, location of airports, seaports and landports to allow for risk management. Through partnership with NASA, the platform includes forecasts and sensitive areas to flooding and landslides. Through strategic alliances, including with the World Bank, the experiences of all countries are documented. The availability of integrated information allows the coordination of a strategy to minimize the social and economic impact of the spread of the virus in the region.

Source: Burón (2020)

Box 41: COVID-19 Risk Adjusted Strategy- South Africa National Government Coronavirus Information Page

The South African Government has created a dedicated webpage as a resource portal for the consolidated information on COVID-19. The webpage has all the authentic press-releases, necessary information on health as well as government advisories for different sectors and for measures of lockdown.

Main Features:

1. Consolidated and authentic information
2. Preventive steps for limiting and mitigating the disease
3. Advisory to contain public panic
4. Audio and video messages
5. Framework for public consultation related to varied services and sectors including health, agriculture, businesses, electricity, and transport
6. Health Guidelines as well as economic relief guidelines
7. Includes the link to the COVID alert application as well a hotline number.

Source: South African Government (2020)

Community engagement

The goal of risk communication is to have an interactive dialogue, which is collaborative in nature and includes the opinion of the community members. It is important to solicit the community opinions and engage them in the response and recovery efforts (World Health Organization, 2018). This can motivate community members to engage in preventive behaviour and to create an enabling environment for change to contain the spread of the disease. As per Dryhurst et al. (2020), individual opinions, values, experiences often get magnified through social interactions and hence become important factors of compliance for adopting preventive behaviour. Community members must be part of the action for awareness, for treatment information and in maintaining safety of the community (World Health Organization, 2020f). Effective response and efficient recovery depend on ownership and accountability of the community members in the process.

Last mile access

While community engagement is important, it must also reach the remote areas and regions. Adequate research and innovation are needed to enhance participation of at-risk remote communities through digital means. Many online platforms have been developed to contribute to community-level surveillance through tracking of suspected COVID-19 patients (Chatterjee et al., 2020). There is a need to institutionalize the community participation practice in the health systems through health workers and supported by digital technologies.

Box 42: Nigeria's effort on last mile access

In Nigeria and Uganda the respective governments along with WHO officials travelled to reach out to communities

affected by COVID-19 and also to prevent infodemics. Along with established traditional methods of risk communication like posters, radio, television, social media sites like Twitter, Facebook, Tencent and TikTok were tapped to share correct information and reduce misinformation. In addition, awareness on usage of WHO and Google's SOS Alert on COVID-19 was created.

Source: World Health Organization (2020f)

Local contextualization

For risk communication to be clear and easily understood, it requires the use of pictures from local customs and practices, relayed in native languages. Risk communication officers need to review their strategies for adaptation to the local contexts. As per WHO guidelines, risk communicators must also engage with community leaders and traditional healers on appropriate treatment and care as well as to communicate about prevention.

Box 43: Government of Uganda and Nigeria's Private Sector Communication Resources

The Government of Uganda's communication resources included aspects of kindness, addressing social stigma and curbing the anxiety along with other necessary details on preventive health behaviour. The website of the Ministry of Health also provides visual information in different languages to widen its reach. Communication resources include pictorial flyers in different local languages. The interactive dashboard allows for citizens to seek information on different aspects of self-protection as well as of guidance to protect others.

In Nigeria Capital Power Multimedia Ltd produced COVID-19 sensitization animations. They localize the generic data from WHO and Africa Centres for Disease Control and Prevention into local African languages to serve remote and semi urban populations as well as the most vulnerable who do not have basic education.

Sources: Open Government Partnership (2020); Uganda Ministry of Health (2020)

Reassurance and establishing trust

One of the important goals of risk communication, other than alerting, is the communication of "reassurance" (Sandman, 2012). Those at highest risk also are likely to become more concerned and anxious. Reading and stalking data on multiple platforms can create unease and panic among the community. The daily death tolls and upsetting images as shared by media can have the negative impact of fuelling the anxiety. Hence, it is important that messages relayed are structured in a way, which provides positive assurance on the mitigation steps taken by the local authorities and reiterates the community's active participation to check the spread of the virus. Kassam (2020) stated that "COVID-19 is killing the truth - and public trust". Trust can influence the public perception of risk and their cooperation with the measures adopted by the local authorities including adoption of interventions such as physical distancing (Blair, Morse and Tsai, 2017; Vinck et al., 2019). The initial underestimation of the COVID-19 disease by some

national governments led to the deepening of the disconnect between citizens and their governments.

Ensuring clarity and countering misinformation

Effective risk communication requires that scientifically backed factual information is authentic, clear, comprehensible and provided without any delay (Lang, Fewtrell and Bartram, 2001). It is important that information is relayed in a perspective that quickly translates into the expected action from the community such as behavioural compliance. Complex scientific terms should be simplified into relatable themes, analogies or customs that are clear and simple. The abundance of information on social media, and the speed at which it spreads, makes it difficult to differentiate between facts and opinions. Misinformation can be countered by ensuring that the correct message reaches audiences first and through an accessible medium.

Generating solidarity

Effective risk communication must engage in community solidarity exercises. Being part of the community support groups and suggesting ways for shared experiences help in creating positive image building for the risk communicators. The reduced community contact due to physical distancing requires the need for such support groups.

Transparency

Effective transparency requires that the public is able to receive and process information accurately without wading into the information tsunami. Scientifically-backed information and facts need to be made available in a timely manner so as to counter any opinion-based misinformation. Open access to scientific information is important and all resources developed on COVID-19 should be made available freely. Pro-active access of information can be achieved by policy interventions which enable information to be shared quickly with the public. Forecasting models and data require transparency, based on which policy decisions are being taken. Further, the use of digital technology such as mobile apps to track the patients should provide user data privacy and generate trust by showcasing the positive use of the data collected through apps. More information on transparency is already shared under Principle Three.

Box 44: Open Data Source for collaboration with Civil Society in Haiti

The Government of Haiti has launched a national information portal which allows civil society to collaborate and take part in strategy planning for awareness targeting among the community. The collaboration of civil society allows better monitoring of disease surveillance mechanism and ensure preventive health behaviour. "Citizen watch" is a space created to ensure transparency on pandemic management.

Source: Open Government Partnership (2020)

Communicating uncertainty

Communicating uncertainty is essential and requires assessing the different levels of perception among

different audiences and utilizing an evidence-based approach to convey uncertainty. Understanding the risk associated with the behaviour and activity is important to make decisions. People might need to know the levels of risk with different social engagements like a backyard lawn party or an indoor restaurant dine in. As per Dy & Rabajante (2020), time and space are directly proportional to the level of risk.

The degree of uncertainty should be conveyed in a clear way instead of using ambiguous words like “possible” or “probably” (Dhami, 2018). However, the information needs to be accompanied with required preventive and mitigating actions for the community to understand. Uncertainty also emerges due to the constant evolution of the science pertaining to the management of the COVID-19 pandemic. While scientists grapple with new information and changes in the virus, the community looks up to them to lead the way to protection measures. In such a scenario it is important to increase the science-community interface and promote the knowledge on scientific methods as well as challenges of information processing. Risk communication must recognize that information and advice can shift as the emergency evolves.

Knowing your audience

Risk communication should be tailored to the specific risks and needs of diverse populations. The communication content will vary from patients to families and to caregivers. The preferred method for each audience will differ, thus it requires messages to use varied tools of technological platforms and understanding of unique needs (Lang, Fewtrell and Bartram, 2001). Understanding how audiences receive information and what they will respond to is critical for tailoring messages appropriately, and to ensure the desired response or behavior change (UNDRR 2020b).

Strategic targeting

The impact of COVID-19 has been varied across countries and sectors. It is important to ensure that necessary communication regarding changes in government policy reaches the targeted sectors. It is important that information analysis and dissemination be harmonized across relevant sectors, and mechanisms put in place to ensure that “the right information gets to the right people at the right time”, (World Health Organization, 2019) so as to ensure speedy recovery plans.

Inclusivity

Messages need to be tailored for different social groups. Key behaviour focused messaging on prevention of COVID-19 and available assistance may not reach people with visual, hearing or intellectual impairments if it is not provided in multiple and accessible formats. It is also recommended to showcase the public leadership of varied social groups in their engagement for risk communication. Specific target groups with higher risk of being infected or with higher mortality (e.g., elderly, disabled, daily wage earners and other high-risk groups) can be reached and monitoring mechanisms can be setup. In order to bridge the digital divide, traditional methods of risk information through household

visits, television or community radio can be used. To read more on inclusion please refer to Principle Two.

Monitoring and evaluation

Risk communication is a continuous and ongoing function, and requires constant monitoring to update based on changing needs, issues and concerns. Regular data monitoring on public perception is important especially during emergencies (Balog-Way & McComas, 2020). The evolution of new developments and practices, such as vaccination, would require updating risk communication messages.

Capacity building

There has to be dedicated personnel looking after risk communication and community engagement in all departments. Therefore, it requires building baseline capacities of trained risk communicators. WHO recommends enhancing country level capacities to implement effective and coordinated risk communication approaches through simplified tools and regular trainings (World Health Organization, 2020f). Information and knowledge management capacities must be strengthened to support risk assessments, disease surveillance and other early warning systems for public communications. Capacity building activities must also be taken up at community level identified local leaders and volunteers so that information is processed and passed on correctly.

Summary

Effective risk communication caters to efficient recovery through planning and awareness. It makes the truth more accessible and governments more accountable.

- There is need for collaboration among all stakeholders to develop a coordinated risk communication approach for all sectors to minimize COVID-19's impact on the economy and the socio-political domain.
- Community engagement is important to establish accountability of behavioural changes, and it must be complemented with last mile access and local contextualization.
- There is a need to communicate verified information in a way that is relevant and comprehensible to different stakeholders and inclusive of all social groups.
- Risk communication must provide reassurance and counter misinformation through scientifically backed facts and in a timely manner.
- Local authorities must establish trust in their information through transparent data sharing and acknowledgment of uncertainties.
- The public perception of risk is to be gauged and monitored regularly to avoid panic.

References

- ACP-EU Natural Disaster Risk Reduction Program (2017) 'Knowledge report for the Fourth Edition of the World Reconstruction Conference'. Brussels: ACP. Available at: <https://www.gfdrr.org/en/publication/knowledge-report-fourth-edition-world-reconstruction-conference> (Accessed: 10 November 2020).
- Africa Center for Strategic Studies (2020) *African Adaptations to the COVID-19 Response – Africa Center, Spotlight*. Available at: <https://africacenter.org/spotlight/african-adaptations-to-the-covid-19-response/> (Accessed: 8 July 2020).
- Aizawa, M. (2020) *The value of inclusive infrastructure in a post-corona virus world, IISD: Sustainable Recovery 2020*. Available at: <https://www.iisd.org/sustainable-recovery/the-value-of-inclusive-infrastructure-in-a-post-coronavirus-world/> (Accessed: 10 September 2020).
- Asia-Pacific Economic Cooperation (2020) *Statement on COVID-19 by APEC Ministers Responsible for Trade*. Available at: http://apec.org/Meeting-Papers/Sectoral-Ministerial-Meetings/Trade/2020_trade (Accessed: 11 September 2020).
- Asian Development Bank (2020a) *ADB Announces NZ\$15.7 Million Loan to Help Cook Islands Combat COVID-19*. Manila.
- Asian Development Bank (2020b) *Mongolia: Addressing and preventing domestic violence in Mongolia during the COVID-19 crisis*. Manila: ADB.
- Bailey, N., Fahmy, E. and Bradshaw, J. (2017) 'The multidimensional analysis of social exclusion', in *Poverty and Social Exclusion in the UK: Volume 2 - The Dimensions of Disadvantage*. Policy Press, pp. 311–342. doi: 10.2307/j.ctt1zqrn6q.20.
- Balog-Way, D. H. P. P. and McComas, K. A. (2020) 'COVID-19: Reflections on trust, tradeoffs, and preparedness', *Journal of Risk Research*, pp. 1–11. doi: 10.1080/13669877.2020.1758192.
- Barbier, E. B. *et al.* (2020) 'Adopt a carbon tax to protect tropical forests', *Nature*. doi: 10.1038/d41586-020-00324-w.
- Barbier, E. B. and Burgess, J. C. (2020) 'Sustainability and development after COVID-19', *World Development*. Elsevier Ltd. doi: 10.1016/j.worlddev.2020.105082.
- Bardosh, K. L. *et al.* (2017) 'Addressing vulnerability, building resilience: Community-based adaptation to vector-borne diseases in the context of global change', *Infectious Diseases of Poverty*. BioMed Central Ltd. doi: 10.1186/s40249-017-0375-2.
- Barnett, D. J. *et al.* (2020) 'Readying for a post-COVID-19 world: The case for concurrent pandemic disaster response and recovery efforts in public health', *Journal of Public Health Management and Practice*. Lippincott Williams and Wilkins, pp. 310–313. doi: 10.1097/PHH.0000000000001199.
- Bavel, J. J. V. *et al.* (2020) 'Using social and behavioural science to support COVID-19 pandemic response', *Nature Human Behaviour*. Nature Research, pp. 460–471. doi: 10.1038/s41562-020-0884-z.
- Beaunoyer, E., Dupéré, S. and Guitton, M. J. (2020) 'COVID-19 and digital inequalities: Reciprocal impacts and mitigation strategies', *Computers in Human Behavior*, 111. doi: 10.1016/j.chb.2020.106424.
- Blair, R. A., Morse, B. S. and Tsai, L. L. (2017) 'Public health and public trust: Survey evidence from the Ebola Virus Disease epidemic in Liberia', *Social Science and Medicine*, 172, pp. 89–97. doi: 10.1016/j.socscimed.2016.11.016.
- Bodewig, C. and Hallegatte, S. (2020) *Building back better after COVID-19: How social protection can help countries prepare for the impacts of climate change, Development and a Changing Climate*. Available at: <https://blogs.worldbank.org/climatechange/building-back-better-after-covid-19-how-social-protection-can-help-countries-prepare> (Accessed: 10 September 2020).
- Bowen, T. (2015) *Social Protection and Disaster Risk Management in the Philippines The Case of Typhoon Yolanda (Haiyan)*. Washington, D.C. Available at: <https://openknowledge.worldbank.org/handle/10986/23448>.
- Bower, A., Parker, A. and Long, A. (2020) *Citizen Science and COVID-19: The Power of the (Distanced) Crowd, CTRL Forward*. Available at: <https://www.wilsoncenter.org/blog-post/citizen-science-and-covid-19-power-distanced-crowd> (Accessed: 18 October 2020).
- Brinkerhoff, D. (2003) *Accountability and Health Systems: Overview, Framework, and Strategies, Accountability and Health Systems: Overview, Framework, and Strategies*. Available at: <http://www.who.int/management/partnerships/accountability/AccountabilityHealthSystemsOverview.pdf>.
- Burón, B. (2020) *CEPRENAC creates a platform for a better pandemic management in the region*. Available at: <https://www.preventionweb.net/news/view/71559> (Accessed: 13 October 2020).
- C40 (2020) *C40 Mayors' Agenda for a Green and Just Recovery*. Available at: <https://www.c40.org/other/agenda-for-a-green-and-just-recovery> (Accessed: 12 September 2020).
- CDRI and UNDRR (2020) *Desk review: Impact of COVID-19 on health Infrastructure and its supply chain. Input Paper*. New Delhi.
- Chatterjee, R. *et al.* (2020) 'COVID-19 Risk Assessment Tool: Dual application of risk communication and risk governance', *Progress in Disaster Science*, 7. doi: 10.1016/j.pdisas.2020.100109.
- Constable, H. (2020) *How do you build a city for a pandemic?* Available at: <https://www.bbc.com/future/article/20200424-how-do-you-build-a-city-for-a-pandemic> (Accessed: 1 October 2020).

- Copley, A. et al. (2020) *COVID-19 Pandemic Through a Gender Lens*, *COVID-19 Pandemic Through a Gender Lens*. doi: 10.1596/34016.
- Dhami, M. K. (2018) 'Towards an evidence-based approach to communicating uncertainty in intelligence analysis', *Intelligence and National Security*. doi: 10.1080/02684527.2017.1394252.
- Djalante, R., Shaw, R. and DeWit, A. (2020) 'Building resilience against biological hazards and pandemics: COVID-19 and its implications for the Sendai Framework', *Progress in Disaster Science*. Elsevier Ltd. doi: 10.1016/j.pdisas.2020.100080.
- Dryhurst, S. et al. (2020) 'Risk perceptions of COVID-19 around the world', *Journal of Risk Research*. doi: 10.1080/13669877.2020.1758193.
- Duclos, D. and Palmer, J. (2020) *Background Paper: COVID-19 in the Context of Forced Displacement: Perspectives from the Middle East and East Africa*. Brighton. Available at: <https://www.socialscienceinaction.org/resources/operational-considerations-covid-19-and-forced-displacement-in-the-middle-east-and-east-africa/>.
- Dy, L. F. and Rabajante, J. F. (2020) 'A COVID-19 infection risk model for frontline health care workers', *Network Modeling Analysis in Health Informatics and Bioinformatics*. doi: 10.1007/s13721-020-00258-3.
- ECA et al. (2020) *COVID-19: Towards an inclusive, resilient and green recovery- building back better through regional cooperation*. Available at: https://repositorio.cepal.org/bitstream/handle/11362/45551/4/COVID19TowardsAnInclusive_en.pdf (Accessed: 13 September 2020).
- ECLAC (2020) *The social challenge in times of COVID-19*. Santiago. Available at: <https://www.cepal.org/en/publications/45544-social-challenge-times-covid-19>.
- European Commission (2020) *The role of research and innovation in support of Europe's Recovery from the COVID19 crisis: Policy Brief*. Brussels. Available at: <https://op.europa.eu/en/publication-detail/-/publication/897a67d4-a9fa-11ea-bb7a-01aa75ed71a1/language-en>.
- European Science Foundation (2020) *What is cOALition S*. Available at: <https://www.coalition-s.org/about/> (Accessed: 10 September 2020).
- Fakhrudin, B. (SHM), Blanchard, K. and Ragupathy, D. (2020) 'Are we there yet? The transition from response to recovery for the COVID-19 pandemic', *Progress in Disaster Science*, 7, p. 100102. doi: 10.1016/j.pdisas.2020.100102.
- Fargher, S. and Hallegatte, S. (2020) *How to Build Back Better After the COVID-19 Crisis? A Practical Approach Applied to Fiji*. Available at: <https://www.worldbank.org/en/news/immersive-story/2020/09/17/how-to-build-back-better-after-the-covid-19-crisis-a-practical-approach-applied-to-fiji>.
- Food and Agriculture Organization (2020a) *Food safety in the time of COVID-19*. Rome.
- Food and Agriculture Organization (2020b) *Food systems transformation. Building to transform during response and recovery*. Available at: <https://www.wri.org/blog/2020/06/destruction-inevitable-fate-our-forests>.
- Food and Agriculture Organization (2020c) 'Impact of COVID-19 on informal workers', *Impact of COVID-19 on informal workers*. doi: 10.4060/ca8560en.
- Gómez, Á. (2020) 'What doesn't kill us makes us stronger: the COVID-19 pandemic transforms anonymous citizens into devoted actors (Lo que no nos mata nos hace más fuertes: la pandemia de COVID-19 transforma a los ciudadanos anónimos en actores devotos)', *Revista de Psicología Social*, pp. 1–7. doi: 10.1080/02134748.2020.1783838.
- Hallegatte, S. et al. (2017) *Unbreakable: Building the Resilience of the Poor in the Face of Natural Disasters*. Washington, D.C.
- Hallegatte, S., Rentschler, J. and Walsh, B. (2018) *Building back better: Achieving resilience through stronger, faster and more inclusive post-disaster reconstruction*. Washington, D.C.
- Hechenbleikner, E. M., Samarov, D. V. and Lin, E. (2020) 'Data explosion during COVID-19: A call for collaboration with the tech industry & data scrutiny', *EClinicalMedicine*, 23. doi: 10.1016/j.eclinm.2020.100377.
- Hyogo Prefectural Government (2020) *Hyogo Prefecture's evacuation shelter operation guidelines for coping with COVID-19*. Hyogo.
- ICRC and IFRC (2019) *Reducing the impact of the COVID-19 pandemic on internally displaced people*. Available at: <https://www.unocha.org/sites/dms/>.
- IISD (2019) *UNDP Publications Support Inclusive, Resilient Disaster Recovery, SDG Knowledge Hub*. Available at: <https://sdg.iisd.org/news/undp-publications-support-inclusive-resilient-disaster-recovery/> (Accessed: 10 September 2020).
- IMDA and PDPC (2020) *Trusted Data Sharing Framework*. Singapore. Available at: <https://www.imda.gov.sg/-/media/Imda/Files/Programme/AI-Data-Innovation/Trusted-Data-Sharing-Framework.pdf>.
- Inter-American Development Bank (2020) *Paraguay uses InvestmentMap to make transparent the resources of the COVID-19 emergency*. Available at: <https://www.iadb.org/en/news/paraguay-uses-investmentmap-make-transparent-resources-covid-19-emergency> (Accessed: 18 October 2020).
- International Energy Agency (2020) *Sustainable Recovery: World Energy Outlook Special Report*. Paris. Available at: <https://www.iea.org/reports/sustainable-recovery>.
- International Labour Organisation (2020) *Social protection responses to COVID-19 in Asia and the Pacific: The story so far and future considerations*. Bangkok.
- International Labour Organization (2018) *World Employment Social Outlook: Summary*. Geneva: ILO. Available at: <https://www.ilo.org/wcmsp5/groups/>

- public/---dgreports/---dcomm/---publ/documents/publication/wcms_628654.pdf.
- International Labour Organization (2020a) *COVID-19 and the world of work: Jump starting a green recovery with more and better jobs, healthy and resilient societies: Policy Brief*. Geneva. Available at: https://www.ilo.org/global/topics/green-jobs/publications/WCMS_751217/lang--en/index.htm.
 - International Labour Organization (2020b) *Protecting migrant workers during the COVID-19 pandemic: Recommendations for policy-makers and constituents*. Geneva: ILO.
 - International Monetary Fund (2020) *Press Release No. 20/114*. Available at: <https://www.imf.org/en/News/Articles/2020/03/27/pr20114-joint-statement-by-the-chair-of-imfc-and-the-managing-director-of-the-imf> (Accessed: 6 September 2020).
 - International Organization for Migration (2020) *COVID-19 and stranded migrants*. Available at: https://www.iom.int/sites/default/files/documents/issue_brief_return_task_force.pdf.
 - International Renewable Energy Agency (2020) *African Union and IRENA to advance renewables in response to COVID-19*. Available at: <https://www.irena.org/newsroom/pressreleases/2020/Apr/African-Union-and-IRENA-to-Advance-Renewables-in-Response-to-Covid19> (Accessed: 10 September 2020).
 - International Telecommunications Union (2020) *First overview of key initiatives in response to COVID-19*. Geneva. Available at: https://www.itu.int/en/ITU-D/Regulatory-Market/Documents/REG4COVID/2020/Summary_Key_Covid19_Initiatives.pdf.
 - IOTIC (2020) *TSUNAMI EVACUATION Guide on Tsunami Evacuation during COVID-19*. Available at: https://en.unesco.org/sites/default/files/guide_for_tsunami_evacuation_covid-1_final-1_eng.pdf.
 - Ireton, C. and Posetti, J. (2018) *Journalism, 'fake news' & disinformation [recurso digital], UNESCO Series on Journalism Education*. Available at: <http://unesdoc.unesco.org/images/0026/002655/265552E.pdf>.
 - Ishiwatari, M. et al. (2020) 'Managing disasters amid COVID-19 pandemic: Approaches of response to flood disasters', *Progress in Disaster Science*. doi: 10.1016/j.pdisas.2020.100096.
 - Islam, M. S. et al. (2020) 'COVID-19-Related infodemic and its impact on public health: A global social media analysis', *American Journal of Tropical Medicine and Hygiene*. doi: 10.4269/ajtmh.20-0812.
 - ISO (2015) *Quality management principles*. Available at: <https://www.iso.org/files/live/sites/isoorg/files/store/en/PUB100080.pdf>.
 - Jiménez-Aceituno, A. et al. (2020) 'Local lens for SDG implementation: lessons from bottom-up approaches in Africa', *Sustainability Science*, pp. 729–743.
 - Kaha, K., Maia, K. and Aotearoa, K. O. (2020) *COVID-19: Psychosocial and Mental Wellbeing Recovery Plan, Ministry of Health, New Zealand Government*. Wellington. Available at: <https://www.health.govt.nz/publication/covid-19-psychosocial-and-mental-wellbeing-recovery-plan>.
 - Kassam, N. (2020) *Misinformation, Truth, and Trust: The World After COVID-19*. Available at: <https://interactives.lowyinstitute.org/features/covid19/issues/truth/>.
 - Khemani, S. (2020) *An Opportunity to Build Legitimacy and Trust in Public Institutions in the Time of COVID-19, An Opportunity to Build Legitimacy and Trust in Public Institutions in the Time of COVID-19*. doi: 10.1596/33715.
 - Kimura, F. et al. (2020) 'Pandemic (COVID-19) Policy, Regional Cooperation and the Emerging Global Production Network†', *Asian Economic Journal*, 34(1), pp. 3–27. doi: 10.1111/asej.12198.
 - Koistinen, Mari and Mortlock, A. (2020) 'Ensuring an equitable recovery: Disability inclusion in post-disaster planning'. Available at: <https://blogs.worldbank.org/sustainablecities/ensuring-equitable-recovery-disability-inclusion-post-disaster-planning>.
 - Kozul-wright, R. (2020) *COVID-19 crisis: How South-South cooperation can support economic recovery, UNCTAD*. Available at: <https://unctad.org/news/covid-19-crisis-how-south-south-cooperation-can-support-economic-recovery> (Accessed: 10 September 2020).
 - Lane, R. (2020) *The impact of COVID-19 on indigenous peoples*. 70. New York. Available at: https://www.un.org/development/desa/dpad/wp-content/uploads/sites/45/publication/PB_70.pdf.
 - Lang, S., Fewtrell, L. and Bartram, J. (2001) 'Risk Communication', in Fewtrell, L. and Bartram, J. (eds) *Water quality : guidelines, standards and health : assessment of risk and risk management for water-related infectious diseases*. World Health Organization. Available at: <https://apps.who.int/iris/handle/10665/42442>.
 - Lee, J. et al. (2020) 'Embedding trust into COVID-19 recovery: Four dimensions of stakeholder trust', *Deloitte Insights*. Available at: <https://www2.deloitte.com/us/en/insights/economy/covid-19/building-trust-during-covid-19-recovery.html>.
 - Merwe, B. van der (2020) *Redesigning physical spaces in the age of COVID*. Available at: <https://www.accenture.com/au-en/blogs/anztrends/redesigning-physical-spaces-in-the-age-of-covid> (Accessed: 10 September 2020).
 - NACTO and GDCl (2020) *Streets for Pandemic Response and Recovery*. Available at: https://nacto.org/wp-content/uploads/2020/09/Streets_for_Pandemic_Response_Recovery_Full_20-09-24.pdf.
 - National Business Compact on Coronavirus (2020) *Five insights: National collaboration platforms for rebuilding better: Action toolkit*. Available at: <https://www.covid19businessresponse.ke> (Accessed: 16 October 2020).
 - NDMA and CDRI (2020) *Response to COVID-19: Kerala*. New Delhi. Available at: <https://cdri.world/casestudy/response-to-covid19-by-kerala.pdf>.
 - Noy, I., Ferrarini, B. and Park, D. (2019) *Build*

- Back Better: What is it, and what it should be?* ADB Economics Working Paper Series. Manila. Available at: <https://www.adb.org/sites/default/files/publication/544956/ewp-600-build-back-better.pdf>.
- OECD (2017) *Employment Implications of Green Growth: Linking jobs, growth, and green policies. OECD Report for the G7 Environment Ministers*. Paris. Available at: <https://www.oecd.org/environment/Employment-Implications-of-Green-Growth-OECD-Report-G7-Environment-Ministers.pdf>.
 - OECD (2020a) *Building Back Better: A Sustainable, Resilient Recovery after COVID 19*. Paris. Available at: <http://www.oecd.org/coronavirus/policy-responses/building-back-better-a-sustainable-resilient-recovery-after-covid-19-52b869f5/>.
 - OECD (2020b) *Providing science advice to policy makers during COVID-19*. Paris. Available at: <https://wellcome.ac.uk/sites/default/files/wellcome-global-monitor-2018.pdf>.
 - Oertelt-Prigione, S. (2020) *The Impact of sex and gender in the COVID-19 pandemic*. Brussels: European Commission. Available at: <https://op.europa.eu/en/publication-detail/-/publication/4f419ffb-a0ca-11ea-9d2d-01aa75ed71a1/language-en>.
 - Open Government Partnership (2020) *Collecting Open Government Approaches to COVID-19*. Available at: <https://www.opengovpartnership.org/collecting-open-government-approaches-to-covid-19/> (Accessed: 16 October 2020).
 - Osuteye, E., Johnson, C. and Brown, D. (2017) 'The data gap: An analysis of data availability on disaster losses in sub-Saharan African cities', *International Journal of Disaster Risk Reduction*, 26, pp. 24–33.
 - Oxford Analytica (2020) 'COVID-19 complicates global humanitarian aid response. Expert Briefings.', *Emerald Insight*. Available at: <https://doi.org/10.1108/OXAN-DB251990>.
 - Pacific Community (2020) *Working together on the COVID-19 crisis: CROP Statement*. Available at: <https://www.spc.int/updates/blog/2020/05/working-together-on-the-covid-19-crisis-crop-statement> (Accessed: 10 September 2020).
 - PAHO (2010) *Risk Communication for Public Health Emergencies Workshop Facilitator's Guide*. Washington, D.C.
 - Parker, B. (2020) *The New Humanitarian | Coronavirus funding, donors, and aid: The pots and pitfalls, The New Humanitarian*. Available at: <https://www.thenewhumanitarian.org/news/2020/06/03/keeping-track-coronavirus-aid-funding> (Accessed: 16 July 2020).
 - Pitakdumrongkit, K. (2020) *Regional Finance Cooperation: Can It Weather the Storm?* Available at: www.rsis.edu.sg.
 - Provenzi, L. and Barello, S. (2020) 'The Science of the Future: Establishing a Citizen-Scientist Collaborative Agenda After Covid-19', *Frontiers in Public Health*. doi: 10.3389/fpubh.2020.00282.
 - Puvimanasinghe, S. (2013) 'International solidarity in an interdependent world', in *Realizing the Right to Development*. Geneva: United Nations, pp. 179–194. Available at: <https://doi.org/10.18356/f729a0c7-en>.
 - Ramalingam, B., Wild, L. and Ferrari, M. (2020) *Adaptive leadership in the coronavirus response Bridging science, policy and practice*.
 - Richterich, A. (2020) 'When open source design is vital: critical making of DIY healthcare equipment during the COVID-19 pandemic', *Health Sociology Review*, pp. 1–10. doi: 10.1080/14461242.2020.1784772.
 - Rogers, D. P. et al. (2020) 'Learning from Multi-Hazard Early Warning Systems to Respond to Pandemics', pp. 1–20. Available at: <https://ec.europa.eu/jrc/en/publication/recommendations-national-risk-assessment-disas->
 - Sachs, J., Schmidt-Traub, G., Kroll, C., Lafortune, G., Fuller, G. & W. et al. (2020) *The Sustainable Development Report 2020*, Cambridge University Press. Available at: www.pica-publishing.com.
 - Sachs, J. D. et al. (2019) 'Six Transformations to achieve the Sustainable Development Goals', *Nature Sustainability*. doi: 10.1038/s41893-019-0352-9.
 - Sandman, P. (2012) *Responding To Community Outrage: Strategies for effective risk communication*. Available at: <https://psandman.com/media/RespondingtoCommunityOutrage.pdf>.
 - Sanyaolu, A. et al. (2020) 'Comorbidity and its Impact on Patients with COVID-19', *SN Comprehensive Clinical Medicine*. doi: 10.1007/s42399-020-00363-4.
 - Seth, N. (2020) *Learning for a green recovery, UNEP*. Available at: <https://www.unenvironment.org/news-and-stories/story/learning-green-recovery> (Accessed: 10 September 2020).
 - Signé, L. (2020) 'A new approach is needed to defeat COVID-19 and fix fragile states', *Brookings Institution Future Development*. Available at: <https://www.brookings.edu/blog/future-development/2020/04/21/a-new-approach-is-needed-to-defeat-covid-19-and-fix-fragile-states/> (Accessed: 17 July 2020).
 - South African Government (2020) *COVID-19 Corona Virus South African Resource Portal*. Available at: <https://bit.ly/2VTLYUv> (Accessed: 13 September 2020).
 - Uganda Ministry of Health (2020) *Be Ready For Covid-19*. Available at: <https://www.health.go.ug/covid/be-ready-for-covid-19/> (Accessed: 13 September 2020).
 - UN-HABITAT (2020) *Guidance on COVID-19 and Public Space*. Kenya. Available at: https://unhabitat.org/sites/default/files/2020/06/un-habitat_guidance_on_covid-19_and_public_space.pdf.
 - UN Department of Global Communications (2020) *UN Tackles "Infodemic" of misinformation and cybercrime in COVID-19 Crisis*.
 - UN Innovation Network (2020) *Innovation: COVID-19 Special Edition*. Geneva. Available at: https://www.un.org/sites/un2.un.org/files/2020-04_-_unin_quarterly_innovation_update_-_covid-19_special_

- edition.pdf.
- UN Women (2020) *COVID-19 and Ensuring Safe Cities and Safe Public Spaces for Women and Girls*. Available at: <https://www150.statcan.gc.ca/n1/daily-quotidien/191205/dq191205b-eng.htm>.
 - UNCTAD (2020) 'Impact of the Pandemic on Trade and Development Impact of the Pandemic on Trade and Development TRANSITIONING TO A NEW NORMAL'. Available at: <https://shop.un.org> (Accessed: 16 December 2020).
 - UNDESA (2020a) *COVID-19: Reaffirming State-People Governance Relationships*. Available at: <https://publicadministration.un.org/en/Intergovernmental-Support/CEPA/Principles-of-Effective-Governance>.
 - UNDESA (2020b) *COVID-19 and Older Persons: A Defining Moment for an Informed, Inclusive and Targeted Response*. Available at: <https://population.un.org/wpp/>. (Accessed: 14 July 2020).
 - UNDESA (2020c) 'COVID-19 and sovereign debt', (72), pp. 1–5. Available at: www.un.org/development/desa/publications/.
 - UNDESA (2020d) *Resilient institutions in times of crisis: transparency, accountability and participation at the national level key to effective response to COVID-19*. New York. Available at: <https://www.un.org/development/desa/dpad/publication/un-desa-policy-brief-74-resilient-institutions-in-times-of-crisis-transparency-accountability-and-participation-at-the-national-level-key-to-effective-response-to-covid-19/>.
 - UNDESA (2020e) 'Responses to the COVID-19 catastrophe could turn the tide on inequality', pp. 1–4. Available at: www.un.org/development/desa/publications/.
 - UNDRR (2016) *Bangkok Principles for the implementation of the health aspects of the Sendai Framework for Disaster Risk Reduction 2015-2030*. Geneva.
 - UNDRR (2020a) *Combating the Dual Challenge of COVID-19 and Climate-Related Disasters, UNDRR Asia Pacific COVID-19 Brief*. Bangkok.
 - UNDRR (2020b) *Risk communication and countering the 'infodemic', UNDRR Asia Pacific COVID-19 Brief*. Bangkok.
 - UNDRR, HelpAge International and UN Women (2020) *Leave No One Behind in COVID-19 Prevention, Response and Recovery*. Bangkok.
 - UNDRR, IRP and UNESCAP (2020) *COVID-19: Opportunities for Resilient Recovery, UNDRR ASIA Pacific COVID-19 Policy Brief*.
 - UNECOSOC (2018) *Principles of effective governance for sustainable development*. United States.
 - UNESCAP (2019) *Asia and the Pacific SDG Progress Report 2019*. Bangkok.
 - UNESCAP (2020) *The Impact and Policy Responses for COVID-19 in Asia and the Pacific*.
 - UNESCO (2020a) 'Global Education Monitoring Report 2020: Inclusion and education: All means all.', *Unesco*, pp. 135–153. Available at: <https://unesdoc.unesco.org/ark:/48223/pf0000373718%0Ahttp://bit.ly/2020gemreport>.
 - UNESCO (2020b) 'Open Science Movement, Global Open Access Portal'. Available at: <http://www.unesco.org/new/en/communication-and-information/portals-and-platforms/goap/open-science-movement/>.
 - UNESCO Cities Platform (2020) *Urban solutions: Learning from cities' responses to COVID-19. Online Meeting Report*. Paris.
 - UNICEF (2020) *Global annual results report 2019: Goal Area 5*. New York.
 - United Nations (2015a) *Sendai Framework for Disaster Risk Reduction 2015-2030*. Geneva.
 - United Nations (2015b) *United Nations Transforming Our World: the 2030 Agenda for Sustainable Development. A/RES/70/1, United Nations*.
 - United Nations (2020a) *Shared responsibility, global solidarity: responding to the socio-economic impacts of COVID-19, United Nations*.
 - United Nations (2020b) *Shared Responsibility, Global Solidarity: Responding to the socio-economic impacts of COVID-19*. Available at: <https://unsdg.un.org/resources/shared-responsibility-global-solidarity-responding-socio-economic-impacts-covid-19> (Accessed: 7 September 2020).
 - United Nations (2020c) *The Secretary-General's UN COVID-19 Response and Recovery Fund*. New York.
 - United Nations (2020d) *UN Sri Lanka highlights everyday heroes spreading solidarity amid pandemic*. Available at: <https://www.un.org/es/node/98136>.
 - United Nations Foundation (2020) *COVID-19 Solidarity Response Fund for WHO*. Available at: <https://covid19responsefund.org/en/> (Accessed: 10 September 2020).
 - United Nations General Assembly (2016) *Report of the Open-Ended Intergovernmental Expert 2 Working Group on Indicators and Terminology Relating to Disaster Risk Reduction. Seventy-First Session, Item 19(c). A/71/644*. Available at: <https://www.undrr.org/publication/report-open-ended-intergovernmental-expert-working-group-indicators-and-terminology%0Ahttp://www.preventionweb.net/drr-framework/open-ended-working-group/>.
 - United Nations Sustainable Development Group (2019) *United Nations Sustainable Development Cooperation Framework*. Available at: https://unsdg.un.org/sites/default/files/2019-10/UN-Cooperation-Framework-Internal-Guidance-Final-June-2019_1.pdf (Accessed: 11 September 2020).
 - USAID (2011) *Towards a safer world-Beyond pandemics: a whole-of-society approach to disaster preparedness*.
 - Vinck, P. et al. (2019) 'Institutional trust and misinformation in the response to the 2018–19 Ebola outbreak in North Kivu, DR Congo: a population-based survey', *The Lancet Infectious Diseases*. doi: 10.1016/S1473-3099(19)30063-5.
 - Walton, N. and Jonker, H. (2020) *Germany's COVID-19 Stimulus Prioritizes Low-carbon Investments | World Resources Institute, World*

Resources Institute.

- WHO (2019) *Open access to health research: WHO joins cOAlition S*. Available at: <https://www.youtube.com/watch?v=9h67siY9muo>.
- Wilkinson, A. et al. (2020) 'Local response in health emergencies: key considerations for addressing the COVID-19 pandemic in informal urban settlements', *Environment and Urbanization*. doi: 10.1177/0956247820922843.
- World Bank (2018a) *Building back better: Achieving resilience through stronger, faster and more inclusive post-disaster reconstruction*.
- World Bank (2018b) *Pathways for Peace: Inclusive Approaches to Preventing Violent Conflict, Pathways for Peace: Inclusive Approaches to Preventing Violent Conflict*. doi: 10.1596/978-1-4648-1162-3.
- World Bank (2020a) *Global economic prospects*. Washington, D.C. Available at: <https://www.worldbank.org/en/publication/global-economic-prospects>.
- World Bank (2020b) *Proposed Sustainability Checklist for Assessing Economic Recovery Interventions*. Washington, D.C. Available at: <http://pubdocs.worldbank.org/en/223671586803837686/Sustainability-Checklist-for-Assessing-Economic-Recovery-Investments-April-2020.pdf>.
- World Bank Group (2020a) *Global Responses to COVID-19 in slums and cities: Practices from around the world*. Washington, D.C.
- World Bank Group (2020b) *Urban and Disaster Risk Management Responses to COVID-19*. Washington, D.C.
- World Economic Forum (2020a) *10 lessons from the COVID-19 frontline for a more gender-equal world*. Available at: <https://www.weforum.org/agenda/2020/05/covid19-gender-equality-women-deliver/>.
- World Economic Forum (2020b) 'Emerging Pathways towards a Post-COVID-19 Reset and Recovery', (July). Available at: http://www3.weforum.org/docs/WEF_Emerging_Pathways_towards_a_Post-COVID-19_Reset_and_Recovery_2020_final.pdf%0Ahttps://www.weforum.org/.
- World Health Organization (2005) *International Health Regulations*. Geneva.
- World Health Organization (2017) *One health*. Available at: <https://www.who.int/news-room/q-a-detail/one-health> (Accessed: 13 September 2020).
- World Health Organization (2018) *Risk Communication And Community Engagement Preparedness And Readiness Framework: Ebola Response In The Democratic Republic Of Congo In North Kivu*. Geneva.
- World Health Organization (2019) *Health Emergency and Disaster Risk Management Framework*.
- World Health Organization (2020a) *COVID-19 Preparedness & Response. RCCE Action Plan Guidance*. Geneva.
- World Health Organization (2020b) *General Information On Risk Communication*. Available at: <https://www.who.int/risk-communication/background/en/> (Accessed: 1 November 2020).
- World Health Organization (2020c) 'Investing in and building longer-term health emergency preparedness during COVID-19 pandemic: Interim guidance for WHO Member States'. Geneva: WHO.
- World Health Organization (2020d) *Preparedness for cyclones, tropical storms, tornadoes, floods and earthquakes during the COVID-19 pandemic. Health advisory*. Geneva: WHO.
- World Health Organization (2020e) 'Responding to COVID-19 - Learnings from Kerala', *Technical Report*, (July). Available at: <https://www.who.int/india/news/feature-stories/detail/responding-to-covid-19--learnings-from-kerala>.
- World Health Organization (2020f) *Risk Communication And Community Engagement Readiness And Response To Coronavirus Disease (COVID-19). Interim Guidance*. Geneva. Available at: <https://www.who.int/publications/i/item/risk-communication-and-community-engagement-readiness-and-initial-response-for-novel-coronaviruses>.
- World Health Organization (2020g) *Strengthening Preparedness for COVID-19 in Cities and Urban Settings Interim Guidance for Local Authorities*. Available at: <http://apps.who.int/bookorders>.
- World Health Organization (2020h) *Stronger collaboration, better health: 2020 progress report on the Global Action Plan for Healthy Lives and Well-being for All*. Geneva.
- World Health Organization (2020i) *WHO Coronavirus Disease (COVID-19) Dashboard | WHO Coronavirus Disease (COVID-19) Dashboard, WHO.int*. Available at: <https://covid19.who.int/>.
- World Health Organization (2020j) 'WHO Director-General's opening remarks at the media briefing on COVID-19 - 11 March 2020'. Available at: <https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19--11-march-2020> (Accessed: 16 December 2020).
- World Health Organization (2020k) *WHO Manifesto for a healthy recovery from COVID-19: Prescriptions for a healthy and green recovery from COVID-19*. Available at: <https://www.who.int/news-room/feature-stories/detail/who-manifesto-for-a-healthy-recovery-from-covid-19> (Accessed: 14 December 2020).
- Yaya, S. et al. (2020) 'Ethnic and racial disparities in COVID-19-related deaths: Counting the trees, hiding the forest', *BMJ Global Health*. doi: 10.1136/bmjgh-2020-002913.
- Young, E. and Quinn, L. (2012) *Making research evidence matter: A guide to policy advocacy in transition countries*. Available at: http://www.icpolicyadvocacy.org/sites/icpa/files/downloads/policy_advocacy_guidebook_-_making_research_evidence_matter_-_young_and_quinn_2012_0.pdf.
- Zachariadis et al. (2020) *Integrating climate policies in COVID-19 economic recovery packages – An*

example from Cyprus. Available at: <https://blogs.worldbank.org/climatechange/integrating-climate-policies-covid-19-economic-recovery-packages-example-cyprus> (Accessed: 24 September 2020).

- Ziesche, S. (2017) 'Innovative Big Data Approaches for Capturing and Analyzing Data to Monitor and Achieve the SDGs', *United Nations- Economic and Social Commission fo Asia and the Pacific*, p. 137. Available at: [https://reliefweb.int/sites/reliefweb.int/files/resources/Innovative Big Data Approaches for Capturing and Analyzing Data to Monitor and Achieve the SDGs.pdf](https://reliefweb.int/sites/reliefweb.int/files/resources/Innovative%20Big%20Data%20Approaches%20for%20Capturing%20and%20Analyzing%20Data%20to%20Monitor%20and%20Achieve%20the%20SDGs.pdf).

International Recovery Platform

IRP Secretariat
DRI - East 5F
1-5-2 Wakinohama Kaigan-dori
Chuo-ku, Kobe 651-0073
Japan

TEL: +81-78-262-6041

FAX: +81-78-262-6046

E-mail: info@recoveryplatform.org

URL: www.recoveryplatform.org

Special thanks to the IRP Steering Committee members: Asian Development Bank (ADB); Asian Disaster Reduction Center (ADRC); Cabinet Office, Government of Japan; Central American Coordination Center for Natural Disaster Prevention (CEPREDENAC); Hyogo Prefectural Government, Japan; International Labour Organization (ILO); Ministry of Foreign Affairs, Government of Italy; Swiss Agency for Development and Cooperation (SDC), Government of Switzerland; The World Bank; United Nations Centre for Regional Development (UNCRD); United Nations Development Programme (UNDP); United Nations Educational, Scientific and Cultural Organization (UNESCO); United Nations Environment Programme (UNEP); United Nations Human Settlements Programme (UN Habitat); United Nations Office for Project Services (UNOPS); United Nations Office for Disaster Risk Reduction (UNDRR); and World Health Organization (WHO).

