DISASTERS IN THE TIME OF COVID-19

ADAPTING PREPARATION AND RESPONSE
TO A PANDEMIC CONTEXT
PREAMBLE

As it has regularly done in the past, in connection with complex, multi-factor and potentially long-lasting crises, the Groupe URD has begun to:


- Establish a ‘real-time evaluation observatory’ in order to produce synthesis reports, analysis and recommendations about the crisis.

This briefing note is the seventh output of the COVID-19 Observatory. It will regularly be updated and supplemented by various contributions on specific topics:

- Health;
- Food, agricultural and economic security;
- Social cohesion and social tensions;
- Mobility and migration;
- Education;
- Conflict;
- The emergency-development ‘nexus’

With the support of the REPER network of francophone NGOs on disaster risk management, it seemed appropriate to produce a note on the adaptation of practices used in disaster response to a COVID-19 context, whether these disasters are related to natural phenomena or technological and industrial accidents. This note has therefore been reviewed by the REPER partners as well as by PIROI’s team, which is at the forefront of disaster preparedness and response in the Indian Ocean.
Summary

Disaster management has become more complex in recent years, particularly following the creation of the Hyogo, Sendai and Cancun frameworks. It is essential to adapt the risk management cycle so that it considers the current challenges posed by the pandemic, both in its active phase today and in light of the possibility of SARS-CoV-2 becoming endemic. Altering disaster preparedness and response, including those associated with hydrometeorological and geological hazards, is therefore imperative to ensure that as many lives as possible are saved, that physical damage is minimized, and that economic recovery is rapid.

Recommendation No. 1: Protect response personnel. It is essential to ensure the protection of those involved in disaster response to prevent them from being infected themselves and to keep them from becoming vectors of transmission. This effort must include both the traditional response personnel and the emerging actors boosting local solidarity, no longer simply from NGOs but also from civil society networks.

Recommendation No. 2: Ensure that evacuation and housing processes take into account the risk of an epidemic. Working with government agencies and NGOs focused on disaster management, it is important to explore the means by which they will adapt their shelter systems for evacuees and disaster victims to ensure that the risk of transmission of COVID-19 is minimized.

Recommendation No. 3: The WASH aspects of the response should be strengthened. It is also essential to strengthen the WASH aspects of these shelters because hygiene, and more generally access to water and sanitation in good conditions, is one of the key elements in breaking the transmission chains.

Recommendation No. 4: Secure the access to emergency services to prevent them from contributing to the transmission chain. Guarantee that access to assistance, be it medical, nutritional, or otherwise, is secure (taking into account distribution modalities, physical distancing in queues/waiting areas, the cleaning of sites, disinfection of goods before distribution, etc.) to prevent them from contributing to the multiplication of transmission clusters.

Recommendation No. 5: Monitor to better respond. Put in place health monitoring systems to prevent post-disaster periods from leading the pandemic's resurgence. The use of GIS tools to combine models of areas affected by disasters and those impacted by the virus will be key in ensuring the dynamic management of response operations.

Recommendation No. 6: Preparing and committing to outbreak prevention: For the coming months (and likely the coming years), disaster response operations will be conducted in contexts where the likelihood of virus transmission will remain high. It will therefore be necessary for policy and/or decision-makers to ensure that response methods take this risk into account, while simultaneously training response teams and populations at large.
INTRODUCTION

The SARS-CoV-2 pandemic has prompted many governments to adopt unprecedented measures to respond to a crisis for which they were very poorly prepared, measures like the implementation of barrier measures and confinement, the progressive systematization of testing, etc. Nonetheless, in establishing measures to be taken it is essential to remember that this pandemic does not preclude the occurrence of other disasters related to natural (geological, hydro-meteorological) or technological hazards.

These hazards will continue to occur, incurring disasters in places where risks have not yet been sufficiently mitigated. It will require both the adapting of disaster response processes to the current epidemiological crisis and the building of resilience in communities, organizations and governments to deal with these situations. For, let us be clear: the SARS-CoV-2 virus is likely to become endemic, and this epidemic is a harbinger of future health crises in a world in profound environmental imbalance.

Given the complex dynamics of disaster response in a pandemic scenario, it is essential that disaster response actors (governments, specialized agencies, NGOs, civil societies) are able to adapt their conventional practices to environments posing a high-risk of contamination, but also for them to prepare for multi-hazard crises, in order to minimize the impact on populations, economies, and the like.

Summer is starting in the Northern hemisphere, during which the probability of disasters linked to hydrometeorological phenomena greatly increases. Many of the countries in this region will continue to be wracked with disasters of varying consequence, while confronting the threat posed by COVID-19. It is consequently particularly important that they prepare themselves as soon as possible to face these multi-risk scenarios. Then, in six months, it will be the Southern hemisphere's turn.

In this briefing note, we first describe the main impacts that a disaster will have on a population in the context of a COVID-19 crisis or simply in an endemic type situation, using academic texts as well as reports on disasters that have occurred in the current COVID-19 period. Secondly, this note describes the main challenges response operations face in the event of a disaster and COVID-19 multi-risk scenario. Finally, we identify some of the main ways that have emerged to adapt to these complex scenarios and suggests further policy changes that would better respond to these complex scenarios.

N.B.: In the following text, the term "disaster" refers to all disasters except for the COVID-19 crisis itself.
DISASTER MANAGEMENT IN "COVID-19 MODE"

The SARS-CoV-2 pandemic is not yet over, but we must already start to think about other "disasters" which will occur. Several parts of the world have already entered the season of cyclones and of food insecurity which is already expected to be difficult in many parts of Africa, especially those affected by devastating locust attacks in the Horn. It is therefore urgent to think about how to adapt the alerts, alarms and mobilization of response capacities.

While some disasters can occur with little or no warning (particularly in the case of earthquakes and technological disasters), others are easier to foresee as they are linked to the globe's climate patterns (though it must be noted that climate change introduces a significant range of uncertainties in their seasonality and trajectories). With regard to extreme climatic events (both fast and slow-occurring), significant progress has been made in modeling, alert and alarm systems. Many disasters are indeed concentrated in specific periods, particularly weather events such as tropical cyclones and tornadoes, floods and forest fires, and can therefore be anticipated. This often leaves a certain amount of time during which local authorities, populations and actors can prepare themselves, at least partially. Thus, it is essential that in this post-peak emergency level in many parts of the globe, and in an uncertain period where a possible endemcity of SARS-CoV-2 is emerging, disaster response policies be reviewed in all countries and that both intervention and resource allocation strategies take into account the new epidemiological context resulting from the current pandemic.

Although they can take many forms, disasters often have similar consequences for the people they affect. From loss of life to displacement to the destruction of private property, they have significant impacts on families. At the community level, disasters can also lead to the degradation of water and sanitation systems, the disruption of supply chains and the destruction of crops, threatening food security and access to drinking water for entire regions. Finally, such disasters can have a significant impact on the entire country, including the reconstruction and repair of housing and infrastructure, which often prove to be costly and complex processes. In the current epidemiological context, it is now essential to add the operational challenges resulting from the necessary consideration of the pandemic, both in its current active phase and in the post-COVID period during which the virus will potentially become endemic. Adapting preparedness and response to these disasters is therefore imperative to ensure that as many lives as possible are saved, that physical damage is minimized, and that economic recovery is swift.

Throughout history, disasters have previously occurred in areas where communicable diseases have been present: this is nothing new. The particularity of SARS-CoV-2 is that it is present all over the world, with no collective immunity to the health risks it poses, and with multiple prevention measures that potentially hamper responses to other disasters. Responding to this complex new dynamic thus requires foresight, innovation and adaptation, taking into account the specificities of communities affected both by these disasters and by the pandemic.

Many methods need to be transformed, and new tools and technologies put in place to help communities recover more quickly. Helping communities adapt to multiple risk scenarios will help build resilience, preparing them for future hazards that are more frequent and severe as a result of climate change.
INTERACTIONS BETWEEN DISASTER IMPACTS AND COVID-19

While countries around the world are making unprecedented efforts to slow the spread of COVID-19, many of them have been hit by other disasters, leaving communities destroyed and all the more vulnerable to COVID-19. In recent months, these numerous disasters have in many cases increased the risk of transmission and placed an additional burden on already fragile health systems. On several occasions, the virus has also worsened the impact of natural disasters due to the social responses associated with protection against COVID-19.

In the United States, tornadoes killed at least 34 people and destroyed thousands of homes in April 2020, a situation made worse for the victims by the depletion of financial and food reserves available in these areas, due to the excessive stockpiling observed in the months prior, creating major supply difficulties which, had they lasted, would have led to severe food shortages. Croatia, for its part, experienced its largest earthquake in 140 years in March, just one day after the confinement order was imposed throughout the country. Confronted with contradictions in the procedures for responding to earthquakes (fleeing damaged structures and regrouping in safe areas) and those in response to COVID-19 (maintaining physical distancing in place), and the confusion which accompanied these, the population in many areas panicked and more than 20,000 people fled the city to the surrounding countryside, posing a severe risk of spreading the virus to people living in previously untouched areas. Another record-breaking disaster was Cyclone Amphan, which in May generated sustained wind gusts of more than 185 km/h, becoming the most powerful cyclone to hit eastern India (Calcutta, Mumbai Suburban) and Bangladesh in 20 years. Its trajectory affected an estimated 10 million people in Bangladesh and led to the loss of nearly half a million families’ homes, forcing them to seek refuge in overcrowded emergency shelters with high risk of contamination. In addition, the destruction of crops, fishing equipment (boats, etc.) and fisheries has threatened the food security of thousands of people who had already been impacted by the confinement measures. Similarly, Hurricane Harold passed through the South Pacific islands of Fiji, Tonga, Solomon Islands and Vanuatu in April. In some areas of the region, the cyclone destroyed up to 80 or even 90 per cent of homes and critical infrastructure, resulting in a shortage of drinking water that would normally be crucial to prevent the transmission of COVID-19.

Theoretical epidemiological models have attempted to predict the impact of natural disasters on COVID-19 infection rates and on the overall ‘curve’ which models the daily new infection rates. In this regard, it should be noted that the timing of disasters in relation to peaks of the infection curve appears to be very important in determining the severity of the impact of the disaster on infection rates.
These models make it possible to propose two hypotheses with important ramifications both in the management of the current crisis and in those that could follow should COVID-19 become endemic:

1. A disaster will likely have a much greater impact on the number of patients it infects if it occurs before the peak of the curve, rather than afterwards, when transmission has a more constant rate.

2. The ability to quickly re-implement safety precautions against coronavirus transmission (such as physical distancing, wearing masks, hand washing) would be important in reducing the transmission of communicable diseases such as COVID-19 following a disaster, be it natural or otherwise.

Historically, disasters have only rarely occurred during epidemics, and when they have, as was the case during the malaria and cholera outbreaks, it has taken time and a deep understanding of the specific environment for them to be addressed. However, countries must be prepared to take into account the risk of spread of COVID-19 in a disaster scenario, especially before the peak of the curve, or risk putting further strain on health systems already overburdened by the multitude of patients they face in the event of a disaster. Moreover, a single case of COVID-19 transmitted by rescue workers to a population could have a very significant political and institutional impact.
Beyond the direct physical impact of these disasters and the risks of accelerated virus transmission that may result from disaster management measures, many experts fear that affected countries also face far-reaching economic consequences that would resonate with the economic effects of the measures taken to control the pandemic. In the aftermath of disasters, rebuilding and repairing homes and critical infrastructure are difficult processes that cost governments a lot of money (see, for example, India’s $132 million relief programme following Cyclone Amphan). These resource requirements will compete with those inherited from the management of COVID-19. In addition, indirect losses linked to the partial or total destruction of part of the economic infrastructure following the disaster would aggravate the effect of the closure of businesses in confined contexts, thus worsening the situation of economic and food insecurity faced by the affected communities.

LIMITING THE RISK OF TRANSMISSION DURING DISASTER RESPONSE

Beyond the specific impacts that natural hazards will have on populations facing the threat of COVID-19, a number of difficulties are foreseeable in response operations taken to address the consequences of natural disasters in a pandemic context. A response’s quality is normally essential to minimize the impacts of a disaster on communities: this becomes especially true in a pandemic context in which everything must be regulated. The World Health Organization (WHO) states that the objective of disaster response is to "provide immediate assistance to maintain life, improve health and support the morale of the affected population". The spread of SARS-CoV-2 due to response operations would directly contradict the “do no harm” principle that is central to humanitarian response, not only putting people’s lives at risk, but also putting additional pressure on the mental health of communities.

Adapting disaster response techniques to take into account the risk of rapid transmission of SARS-CoV-2 will therefore be essential to minimize additional loss of life. This must notably ensure that health and medical infrastructures deployed during disaster response are not overloaded by a rapid influx of patients affected by COVID-19. Currently, although SARS-CoV-2 and its transmission factors are not yet perfectly understood, there is a consensus that the main mode it is transmitted is airborne via droplets or micro-droplets (aerosol). These can transmit the virus directly by coming into contact with the eyes, nose or mouth of an uninfected person. The second mode of transmission of CoV-2-SARS is through contact with materials on which the virus has been deposited, especially likely on objects used by an infected person.

Recent global disaster responses that have been deployed since the beginning of the pandemic have faced great difficulties in adopting precautionary measures to combat the spread of COVID-19. From techniques surrounding caring for victims and the protection of first responders (including in an unstructured urban context), to how to receive equipment and volunteers, nearly every step in the chain of deployment of disaster assistance needs to be adapted. The main precautions that have emerged to control COVID-19 must be present throughout the process.
WHO guide on how to reduce the risk of transmission

To prevent infection and to slow transmission of COVID-19, do the following:

- Wash your hands regularly with soap and water, or clean them with alcohol-based hand rub.
- Maintain at least 1 meter distance between you and people coughing or sneezing.
- Avoid touching your face.
- Cover your mouth and nose when coughing or sneezing.
- Stay home if you feel unwell.
- Refrain from smoking and other activities that weaken the lungs.
- Practice physical distancing by avoiding unnecessary travel and staying away from large groups of people.

Ensuring that disaster response follows these steps where possible will be critical to slowing transmission and ensuring that new COVID-19 infections do not spill over into the already strained disaster medicine and health care systems.

A number of specific elements of disaster response may present a risk of transmission to both affected persons and relief teams, and the challenge will be to identify the most appropriate means and methods to minimize this risk.

RECOMMENDATIONS

Recommendation No. 1: Protect response personnel

In order to ensure the continued provision of goods and services for communities following a disaster, it is essential to ensure that safeguards are in place to protect response workers from SARS-CoV-2 transmission, and to guard against these personnel becoming a vector of transmission. Governments and organizations around the world have begun to adapt their response plans to protect workers from infection and transmission, limiting the direct contact they have with each other and with communities they assist. To be protected in cases where person-to-person contact is unavoidable, such as in search and rescue, emergency medicine and trauma management where physical barriers (such as those made of Plexiglas) are also impossible to deploy, responders must be provided with personal protective equipment (PPE). In the face of a global shortage of PPE, particularly N95 respirators, it is vital that organizations and government agencies work with a variety of suppliers to ensure that the necessary amount of PPE is obtained. Due to these shortages, workers may find they need to reuse their PPE, including respirators, which is not normally recommended. The operational chain should then ensure that appropriate care is devoted to the decontamination of this equipment.

Adapting response to technological disasters is somewhat different, as specialized intervention teams (fire brigades, CBRN teams) are normally already trained and equipped to operate and

In Manitoba (Canada), new and adapted response strategies have been put in place to protect workers working against floods. It is necessary to create – wherever possible - procedures that take into account physical distancing, that emphasize hygiene and that reduce contact between workers, even through shared tools.
intervene in dangerous, toxic or highly contaminated environments. These personnel are used to working as interfaces between hazardous sites and the populations weakened by the catastrophic event, providing safe conduit out of dangerous situations. There are nevertheless important differences, particularly in the procedures for disrobing and decontaminating equipment, which will have to be adapted to the infectious risk.

Recommendation No. 2: Adapt evacuation processes and emergency shelters

Historically, a key element of disaster preparedness has been the provision of shelters to keep people out of harm’s way before the arrival of a cyclone, or when a flood gradually covers inhabited areas that need to be evacuated. These shelters - designed to withstand the severe winds and heavy rains that accompany cyclones or other natural hazards - can be used to house people for short periods of time in a crowded confinement setting. Thus, for countries such as Bangladesh, the introduction of emergency shelter construction has become central in disaster management plans. The more than 4,000 shelters built against cyclones have led to a sharp reduction in deaths resulting from these disasters (see Figure 2).

Similarly, after earthquakes, people often live for weeks or even months in precarious temporary shelters (tent camps, tarp shelters) and then in transitional shelters (prebuild or built on site). These overcrowded shelters, whether for cyclone or earthquake preparedness and response, present a serious risk of coronavirus transmission. Inside, it is impossible to both maintain physical distancing measures crucial to limiting transmission of the virus while also using them to their normal capacity. Responses to this dilemma have varied: while some countries with relatively fewer COVID-19 infections, such as the South Pacific islands, have chosen to suspend restrictions on physical distancing, countries where flattening the curve has become a crucial life-saving method, such as the Philippines, have chosen to reduce the number of people admitted to shelters (by 50% in the case of the Philippines). This reduction in capacity, contributing to slowing down transmission within these shelters, has left many affected citizens homeless, prompting local authorities to urgently seek alternatives for their citizens, (as observed, for example, in the province of Sorsogon in the Philippines where COVID-19 quarantine booths have been transformed into emergency shelters). Ideally, the creation of shelters with more space per person would be the best solution to ensure that individuals can take shelter during disasters while limiting the risk of
infection from COVID-19. In practice, it appeared that due to time and budget constraints, reallocation of existing infrastructure (schools, covered stadiums, warehouses, etc.) would be the most appropriate solution to ensure both shelter for the population and limitation of the risk of virus transmission.

**Recommendation No. 3: The WASH aspects of the response should be strengthened.**

It is necessary to strengthen the WASH (Water, Sanitation, Hygiene) aspects of the response. This applies not only to evacuation or post-disaster shelters, which as previously outlined are often overcrowded, but also more generally to disaster-affected areas in general. Improving hygiene and, more generally, access to water, soap and sanitation are key elements in breaking the chains of transmission. Implementing basic “barrier” measures are essential, but often difficult to implement in the immediate post-disaster period: maintaining physical distancing (a term is preferred to “social distancing”); frequent hand washing; not shaking hands or kissing while people are under the impact of the disaster and seeking reassurance; implementing restrictions on how to handle the deceased, etc. Experience shows that some of these measures are easily integrated in communities: touching elbows to avoid hugging, washing hands in bins set up at the entrance to buildings, and other such measures were ultimately followed fairly quickly. WASH-type support must be provided to ensure the presence in sufficient quantities of water, soap, bleach and ad-hoc containers, as well as body bags to make this set of “barrier measures” feasible and effective in the destabilized post-disaster context.

**Recommendation No. 4: Securing crucial supplies and adapting distribution modalities**

Another aspect that needs to be taken into consideration is the adaptation of processes surrounding relief delivery: from the handling of relief materials, to the organization of distributions, and other steps crucial to providing support, the contamination risks of every step must be identified. This challenge will have to be addressed using an in-depth knowledge of the logistics of assistance delivery. Indeed, the purchase, transport and distribution of food, basic goods kits and medical supplies creates many possible vectors for the transmission of SARS-CoV-2 that can potentially bring the virus even to areas or countries where infections were not previously registered. This explains Vanuatu's fears following Tropical Cyclone Harold in April: the island was not yet affected by COVID-19 and sought to avoid that response operations to one crisis would bring another. As a result, the Government of Vanuatu banned foreign aid workers from entering and ordered that supplies be left unused for a few days to ensure the eradication of any virus deposited on them. In the meantime, the vast majority of Vanuatu's citizens were left to sleep on the rubble of their homes, with little access to emergency relief. Although this may seem to be an extreme case of government response to a disaster in a pandemic scenario, we posit that it seems wise for governments and organizations to practice a comprehensive contamination risk-analysis of their supply and delivery chains, including the risk posed by expatriated teams, relief supplies potentially carrying carrier droplets, or even distribution modalities which may not respect barrier measures (such as physical distancing, hand washing, masks for those most at risk). In any case, it will be necessary to set up monitoring systems for all the actors and populations concerned. Additionally, a reflection has begun to emerge on how to build the resilience of islands which normally depend on external aid.
Recommendation No. 5: Monitor to better respond.

It is essential that health monitoring systems are put in place quickly to prevent the post-disaster period from leading to additional pandemic outbreaks. It is necessary to be able to quickly and accurately detect whether there are possible asymptomatic cases among victims or responders, to retrace their steps, detect contact cases and test and isolate suspect cases. It will thus be necessary to look, beyond the emerging smartphone applications (which have been found to be intrusive, violating privacy), for communication technologies that facilitate the identification and tracking of contact cases. The immediate post-disaster context is indeed a time of great mobility often accompanied with overcrowding in shelters, and therefore poses an important risk of rapid virus transmission. Being able to accurately track infections and isolating them, while adapting shelters as previously outlined, will be key to breaking the transmission chain. Promisingly, the emerging use of Geographic Information System (GIS) tools to superimpose areas affected by the disaster and those affected by the pandemic may be the key to the dynamic management of the response.

Recommendation No. 6: Preparing and committing to outbreak prevention

In the foreseeable future, disaster response operations will take place in contexts where the likelihood of virus circulation will remain high. It will therefore be necessary for policy and/or decision-makers to ensure that response methods take this risk into account, while simultaneously training response teams and populations at large.

A fairly comprehensive example of measures to adapt disaster management to a pandemic context has been proposed by one of the Red Cross Societies with the most experience in disaster management, Madagascar's Red Cross Society:

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<th>RECOMMENDATIONS OF THE MALAGASY RED CROSS</th>
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<td><strong>Train</strong> volunteers in response mechanisms and management of remains</td>
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<td><strong>Raise awareness, communicate risks and engage communities</strong>: media campaigns (TV, radio, social networks), posters and flyers, feedback systems</td>
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<tr>
<td><strong>Promote hygiene</strong>: hand-washing stations, disinfection activities, water stations</td>
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<td><strong>Implement community-based surveillance and contact tracing</strong>: local monitoring committees trained in COVID-19 detection, tracing, and the isolation process</td>
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<td><strong>Assist psychologically</strong>: the creation of a toll-free phone number with trained counselors</td>
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<td><strong>Support health personnel and health authorities</strong>: supplying of ambulances and medicine for both in-hospital but also for out-of-hospital (OOH) healthcare delivery to peoples’ homes</td>
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<td><strong>Rebuild food and financial security</strong>: allowing low-income families to recover financial autonomy</td>
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<tr>
<td><strong>Properly manage human remains</strong>: Supporting the proper management of secure burials of those deceased as a result of COVID-19</td>
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CONCLUSION: BEYOND COVID-19 - HOW TO STRENGTHEN RESILIENCE AND PREPARE FOR THE MULTI-RISK SCENARIOS OF TOMORROW?

The multi-hazard combination of the COVID-19 pandemic and disasters (natural or otherwise), as horrific as their impact on lives and communities has been, will increasingly become part of the daily lives of millions of people. The current period should serve as an opportunity to reflect on management approaches to these complex risk scenarios. Governments, humanitarian and development organizations, national NGOs, local solidarity networks and civil society organizations, but also communities at all levels, should not waste this opportunity to better prepare for the future, including when confronted with the possible resurgences of COVID-19 in the coming months and years. This will also allow a better response to future multi-hazard scenarios that are increasingly likely to occur due to climate change (which makes seasonal natural hazards more frequent and intense) and biodiversity loss (which has been shrinking the barrier to zoonoses, making the spread of new diseases increasingly likely).

The current recession faced by major economies and the resulting decline in tax revenues may reduce the resources available to respond to disaster risks. However, other aid schemes are emerging, particularly through actors in the private sectors and the programs they implement; it remains to be seen if these initiatives will fill the gap. We also expect the decrease in national assets available following this crisis to reduce the preparedness and response capacities of countries and organizations dealing with future disasters. In this regard, research by the World Bank has shown that the rapid availability of post-disaster financing, such as that deployed through Cat DDO (short for Catastrophe Deferred Drawdown Option, an innovative credit line made available to countries following a disaster), can also play an important role in post-disaster and pandemic periods, reducing the impact of the deadly “disaster-pandemic” combination on lives and economies. By developing and investing in these initiatives, during the coronavirus pandemic and afterwards, governments can limit the long-term economic impact while helping communities recover and prepare for future multi-caused disasters. These initiatives can be further reinforced by:

- Creating extensive local food supplies and food reserves which take into account the emergency regulations which may be put in place to control outbreaks.
- Strengthening the financial tools that enable cash transfers by limiting physical contact, particularly with mobile phones. This will require rapid negotiations with the telephone and mobile banking sectors for the rehabilitation of networks affected by a disaster.
- Innovating in architectural design in the area of evacuation shelters, as well as temporary post-disaster facilities, creating structures that resist disasters and limit the transmission of airborne viruses.

This pandemic preparedness and response adaptation agenda must fit into the strategies of international financial organizations such as the IMF, the World Bank and the various development banks, which can distribute resources in crisis scenarios where they are most needed.
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