



Urban and Disaster Risk Management Responses to COVID-19

Urban, Disaster Risk Management, Resilience and Land (GPURL)
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1. Cities at Risk: Responses to COVID-19

COVID-19 is threatening cities and communities across the globe in an unprecedented way, impacting not only public health but also the economy and social fabric. Since the outbreak began in Wuhan, China in December 2019, global confirmed cases of COVID-19 have exceeded one million cases within three months with an approximate mortality rate of 4-5% of reported cases. While COVID-19 might not be as fatal as some other previous epidemics such as SARS, Ebola, and MERS, its transmission rate is much higher, which poses a greater challenge to dense urban areas in the world, especially those with poor infrastructure and service delivery systems. Besides its impact on public health, the COVID-19 epidemic is generating multifaceted, and likely prolonged economic impacts, ranging from disrupted global supply chains to bankrupted small businesses, with significant job losses and impacts on livelihoods of people everywhere, and especially informal sector workers and those with irregular earnings and unstable jobs that have fewer safety nets to weather the crisis.

Cities with similar densities and levels of economic development have fared very differently in their ability to contain COVID-19. Cities' ability to respond to COVID-19 will be determined by existing service delivery and infrastructure systems and their investment in risk reduction and preparedness to cope with disasters, all of which are a function of the effectiveness of their urban governance systems. Density has been labeled as a corollary to the speed of transmission of COVID-19, but the reality is that some extremely dense cities such as Seoul and Singapore have outperformed other equally dense cities in OECD countries and many less densely populated cities in containing viral epidemics. This indicates that the strength and duration of impacts of COVID-19 are not solely determined by a city's population density, but also by local capacity and preparedness to deal with such crises, infrastructure and service delivery systems, and the level of functional responsibilities and resources available to them through decentralization systems.

Many cities in developing countries – both megapolises and secondary cities alike –with limited capacity and without the needed emergency response and preparedness will likely be potential hotspots of contamination and contagion. Almost one billion people live in slums and informal settlements where social distancing is unfeasible and thus the risk of community transmission is very high. The lack of basic services and infrastructure, especially for hygiene (water, sanitation and waste collection) and health, and reliance on communal facilities (e.g. public standpipes or latrines) accelerates infection rates and compounds the difficulties of responding to the disease.

Local governments are in the frontline of combating the COVID-19 epidemic together with national disaster risk management (DRM) and public health authorities. Local governments have important responsibilities in carrying out: (i) city-wide emergency actions to prevent viral transmission and care for the affected; (ii) targeted emergency support to the most vulnerable people from a health and livelihood perspective; (iii) recovery efforts through implementation of economic recovery programs and investments targeted at firms, communities and livelihoods. At the same time, it is critical for national governments to adjust intergovernmental fiscal transfers to increase the resources' flow to cities to implement early recovery programs, while also revisit decentralization policies and institutional systems to strengthen cities' jurisdiction, preparedness and resources to combat epidemics and disasters. In places where local governments have *de jure* or *de facto* limited functional assignment of responsibilities in the areas of care for the affected and epidemic prevention, DRM agencies at national or regional levels will be at the forefront.

To effectively face such challenges, many local governments in developing countries are asking for World Bank technical and financial assistance in managing the impact of COVID-19 in urban areas. The Bank's Urban and DRM teams stand ready to support clients to design and implement a comprehensive set of interventions. Such interventions span the following phases (i) emergency

response; (ii) early economic recovery; and (iii) medium/long term recovery (Table 1). Equipped with a mix of lending instruments, including DPO, PforR and IPF and analytics, Urban and DRM interventions aim to achieve four key objectives: (i) manage urban systems to prevent disease transmission and deliver critical urban services; (ii) protect the urban poor and other vulnerable groups especially in slums and informal settlements; (iii) improve zoning, land use planning, and territorial coordination of planning and investments; and (iv) strengthen local governments' financial sustainability. Prioritized interventions are discussed in detail in the next section.

[Table 1] Urban and DRM response matrix to COVID-19

Objectives	Emergency response	Early economic recovery	Medium/long term recovery
<i>Prevent transmission and provide urban services</i>	<ul style="list-style-type: none"> - Manage and regulate the use of public systems (transit, schools, etc); public spaces and facilities (repurposing); private facilities and events (closures) (D) - Prioritize urban services and redeploy staff and resources (D) - Integrate existing DRM systems with other sectors, esp. health, transport and infrastructure (D) - Awareness and information campaigns (D) 	<ul style="list-style-type: none"> - Develop and implement early recovery and business continuity plans (D/I/A) - Develop health resilience related data infrastructure (I/A) 	<ul style="list-style-type: none"> - Develop long-term emergency management capacity and plans at city level (D/A)
<i>Protect the urban poor and vulnerable groups</i>	<ul style="list-style-type: none"> - Targeted support to vulnerable groups, esp. water provision, handwashing campaigns, sanitation facilities, waste collection, food security, children meals, vouchers, etc. (D/I) - Policies to protect vulnerable groups (e.g. moratoria against utility disconnection, evictions, etc) (D/A) - Community/citizen engagement and geographically targeted awareness campaign (D) - Identify epidemic hotspots (A) 	<ul style="list-style-type: none"> - Roll out fast-track labor intensive public work programs targeted at slums and poor neighborhoods (cash for work, urban CDD) (I/P) - Provide safety nets for urban communities and the poor (e.g. block grants, cash transfers) (D/I/P) - Roll out housing improvement program for the urban poor (micro-loans, grants) (D/I/P) - Community/citizen engagement and geographically targeted awareness campaign (I/P) 	<ul style="list-style-type: none"> - Scale up national and citywide slum upgrading and housing programs (low-cost housing, infrastructure and services upgrading, land tenure regularization) (I)
<i>Improve land use planning and territorial coordination</i>	<ul style="list-style-type: none"> - Establish a temporary territorial entity to coordinate across local government agencies and jurisdictions, and with national DRM and public health agencies (D) 	<ul style="list-style-type: none"> - Develop operational health and safety and O&M plans for live animal markets/abattoirs (D/A) - Revisit land use planning & zoning regulations for health and safety issues re risk hotspots (abattoirs/animal markets, hazardous waste, etc) (D/A) - Planning and design standards and investments in healthy public spaces and neighborhoods (I/A) - Urban agriculture pilots (I) - Develop territorial coordination policies, plans and institutional arrangements (A) 	<ul style="list-style-type: none"> - Mainstream healthy, livable and resilient cities policies and interventions (D/P/I) - Implement sustainable urban agriculture (I) - Conduct multi-sectoral impact assessment at city and regional level of confinement and social distancing policies, risk transmission channels, etc (A) - Establish a permanent territorial coordination entity (D/I)
<i>Strengthen local government's financial sustainability</i>	<ul style="list-style-type: none"> - Access emergency financing through increased fiscal transfer and block/conditional grants and suspended debt repayment (D) 	<ul style="list-style-type: none"> - Provide fast-track support to municipal finances (D/I) 	<ul style="list-style-type: none"> - Strengthen local gov. institutional system (I/A) - Strengthen subnational financial management and investment prioritization and coordination (I/A)

* D= DPO, I= IPF, P=PforR, A =TA/Analytics

2. What Cities Need to Do: Emergency Response and Recovery

City-wide emergency response for prevention and care

Local governments and DRM agencies have an important role to play in preventing the virus' transmission and providing care for the affected. In several developing countries, the national government is more likely than local governments to own and operate the largest hospitals and specialized health care institutions that would be expected to be at the forefront of the COVID-19 fight. Yet many local governments play important roles in health care services, and particularly the infrastructure, basic services and awareness campaigns related to hygiene and risk reduction.

Regulating the use and operation of public facilities – that are mostly owned and managed by local governments – is a high priority. First, city health facilities can be reoriented to prioritize treatment of the disease with alternative plans developed for non-emergency health care needs. Second, other public facilities, such as stadiums, community centers, and libraries, can be repurposed as shelters for homeless, quarantine facilities, and additional health facilities. Third, open spaces and streets can be quickly transformed from potential “hotspots” of epidemics to spaces that allow for social distancing. In this regard, it is important to assess the implications of city-imposed crowd control measures such as fencing off public spaces to minimize potential negative impacts on the public. When open spaces, sidewalks, and metro stations are closed off in contexts where lockdown policies/advice are not followed or enforced, spaces for distancing between pedestrians and travelers are reduced and the risk of transmission increases.

It is also critical to effectively manage supply chains, plan emergency routes, and redeploy city human and financial resources to the frontline. In an epidemic like COVID-19 which is already overwhelming existing health care systems, local governments will often find themselves contributing scarce human and financial resources to such efforts. This includes (i) planning and financing of efforts to redeploy and/or supplement human and financial resources in critical functions related to frontline emergency management (especially medical and emergency response professionals, ambulances, medical equipment, mortality management, etc); and (ii) planning and logistics related evacuation routes, traffic management, critical supply chains, etc.

In parallel, local governments need to continue the provision of essential public services and businesses for citizens. It will be critical to ensure that local governments have the operating budgets, including budgets for salaries of municipal employees and resources for and basic maintenance of municipal infrastructure and equipment. However, many cities especially in the developing world face budget constraints during a crisis, associated with significant decreases in fiscal transfer from national and/or state governments and own source revenues, coupled with increasing strain on public resources and the need to curtail some non-essential services as part of confinement and social distancing policies. The fiscal difficulty often leads to disrupting basic urban services and this can escalate to social conflicts. For instance, prolonged food supply chain disruptions have the potential to result in urban crime and violence. Setting up agile systems to respond to bottlenecks in the transport network, food/commodity markets, medical equipment, logistics, and other supply chains should be a high priority. At the same time, prioritizing what are essential public services will be critical because other services have to be discontinued and/or human and financial resources need to be deployed for more urgent priorities. Other services – e.g. parking enforcement, operation of libraries, parks and other leisure facilities, etc – might be discontinued or scaled back temporarily.

Such measures for effective emergency management require the cooperation of citizens at all levels. Local governments need to build trust and engage communities for their efforts to combat epidemics, instead of forcefully evicting people from their work or home for “social distancing”. In particular, mobilizing community-based organizations can be effectively brought in for: (i) hygiene campaign (WASH) and messaging, such as through direct educational efforts; (ii) tracking illness;

(iii) 'policing' physical distancing; (iv) assistance in caring patients; and (v) coordination with officials for disposal of the dead and co-ordination for hospitalization.

Targeted emergency response for the vulnerable to COVID-19

Particular attention needs to be devoted to slums and informal settlements, places with high population density and poor housing, infrastructure and living conditions. The transmission risk is likely to be exacerbated in slums and informal settlements where people live in overcrowded conditions, under-served by basic public services, such as drainage, street lighting, electricity, water, sewerage, waste management, and health care. Research on Ebola outbreak in Liberia shows that low-income areas had 3.5 times more cases and risk exposure than higher income areas. It was also found that the rapid spread in poorer areas was likely to link to more outbreaks in higher income areas, because people living in slums regularly move back and forth across the city.¹ The latter is particularly the case because informal settlement residents work more often than not in the informal sector and are irregular income earners, whose livelihoods will be seriously affected by social distancing and confinement policies. Given that overcrowding in informal settlements makes social distancing practically unfeasible, special attention needs to be paid to service delivery for hygiene (such as water, sanitation, health care facilities) and income support/social safety nets that could attenuate the risk for the sick and those who cannot afford to miss a day's wage. Similarly, communication campaigns need to be prioritized. Delivery modalities of services and safety nets will vary across countries and cities depending on capacity.

There are also other vulnerable urban population groups who need urgent local government support. For populations particularly vulnerable to COVID-19, such as the elderly and those with prior health conditions, the lack of access to health services – whether due to system overload or mobility or other constraints – will have a significant impact on mortality rates. In addition, the impact on informal sector workers and the poor whose lack of social protection systems, savings and regular incomes will make them especially vulnerable to spreads of COVID-19, which will be a further compounding gender effect. In fact, there is likely to be an economic impact on women's labor force participation where school closures and gender norms may force them to discontinue working in the short term, with potential difficulties to re-enter the labor force. Similarly, for poor children for whom schools are not only a source of education but also of a healthy meal, there will likely to be a negative impact on learning, health and stunting.

Local governments will have an important role to play to identify and reach such vulnerable groups. It can be carried out either via geographic targeting in areas of concentration of poverty (Box 1) and informality or through outreach via the schools for meals distribution. At the same time, they need to minimize disruptions to livelihoods of populations that are affected economically, for instance through moratoria on water, power and gas utilities disconnecting non-paying customers (if with legal connections) and to address issues such as tenant evictions and repossession of collateral for those unable to pay back their loans due to loss of income.

There are two main ways to finance these emergency actions aimed at mitigating the economic impacts of the crisis at local level. Local governments need to coordinate with national and state governments to access immediate funding, through intergovernmental fiscal transfers and/or from donors, for use in emergency response such as income transfers and short-term credit facilities. Targeted social safety net programs are also needed to the vulnerable groups to deal with immediate economic impacts. This includes cash transfers and cash for works programs, which is often provided through existing national programs or the responsibility of national governments. As economic activity slows down, however, community-driven programs will also become critical for supporting livelihoods. In addition to cash transfers, local governments and

¹ Center for Infectious Disease Research and Policy: <http://www.cidrap.umn.edu/>

community-driven programs could put in place labor-intensive public work programs, skills training and other job opportunities to offset the economic impact of the crisis.

Recovery efforts and the need to revisit urban policies, institutions and decentralization systems

The COVID-19 crisis calls for developing a multifaceted action plan for early economic recovery to curtail its negative impacts in the future. In the past, resilience has been defined mostly based on actions against natural disasters with a less focus on epidemics. To be better prepared for future crises, a paradigm shift is needed focused on expanding the concepts of: (i) hazard and vulnerability assessments; (ii) preparedness; (iii) response; and (iv) recovery measures, aiming to incorporate health aspects. In dealing with COVID-19, countries such as Singapore and South Korea who have reflected lessons from previous epidemics into their institutional systems and developed such action plans have succeeded in effectively controlling spreads of COVID-19. In addition, the role of local governments in developing local economic development initiatives is to be critically important to help out the affected small businesses and boost local economy.

To implement such plans, local governments need to closely coordinate with different sectoral agencies, the private sector and community-based organizations. The coordination effort is required within various local government actors, and also among different tiers of governments. Given that in time of crisis reduced fiscal transfers and own source revenues limit municipalities' ability to deliver urban services, the private sector's engagement can make a difference. In Indonesia, for example, private entities explored feasible options for providing rapid test kits available at low cost to people, thus reducing the burden on the stretched public health care system. New York city issued an expression of interest for technology companies, universities, nonprofits, research labs, and other entities with technology expertise to join the city's COVID Tech SWAT Team. Coordination among different stakeholders can improve the effectiveness of emergency responses, while reducing burdens on local governments.

Strengthening zoning, land use, and territorial planning is key for improved resilience. A common lesson from most of recently emerging infectious diseases is that it is crucial to control trade in wildlife and regulate live animal and other potentially unsafe food markets to avoid the dangers for such disease outbreaks. Land-use planning and zoning regulations can separate such high-risk areas from other land uses and regulate hygienic conditions. At the same time, districts surrounding emergency hospital facilities can be designed in a way to have designated pathways for patients and medical practitioners, aimed at reducing contact and ensuring public safety. Land use planning should secure well-designed walking and cycling networks linking different neighborhoods. Accessibility to the walking and cycling networks is associated with improved physical and mental health, which can make cities more resilient and healthier in the long term.

Urban agriculture can contribute to food security, sustaining livelihoods and reducing risk and vulnerability. Urban agriculture can be an important source of income and food for households, especially the urban poor. It can reduce consumption of more expensive imported food products, reduce transport costs, generate income and employment, and have important environmental sustainability impacts. It is estimated that some 15% of the world's food is being produced in urban areas and this could be scaled up even further, with huge potential benefits for the urban poor. Urban agriculture policies and adapted land use plans would help in this regard.

Establishing a territorial coordination entity can be effective to collaborate in delivering services and carrying out investments at a regional level. Local governments and DRM agencies need to rethink the role of sub-national government and municipal finances for improved resources and readiness to tackle such crises in the future. Such entity's mandate would include: (i) the development of territorial & land-use plans at sub national to foster regional integration; and (ii) the update of municipal land-use plans incorporating urban-rural linkages. It requires positive decision-making power (versus no-objection role or ad hoc consultation), dedicated and

predictable financial resources especially for capital investment, and dedicated support staff with technical expertise.

In the long run, and notwithstanding being equipped with measures for emergency response and recovery, cities will have to grapple with the question of how cope with the “new normal” after COVID-19 crisis fades out. The critical determinants will be: (a) how will urban residents perceive issues such as density, the use of public transit systems and public spaces; (b) how will policymakers approach the challenge of slums and overcrowded and underfunded places and systems (schools, healthcare and transit); (c) how the future of work and education evolve after extended periods of telework and distance learning; and (d) more generally what will be the social and cultural legacy emerging post-social distancing. The answer to these questions – and especially the insights and innovations of sociology, design/placemaking and policymaking – will determine the future of cities.

Box 1. How to leverage Technology for effective health emergency response and recovery

Identifying vulnerable people and the affected through geospatial mapping can help set up effective emergency actions and significantly flatten the curve. It is shown that countries with well-functioning Municipal Spatial Data Infrastructure (MSDI) (e.g. Singapore and South Korea) perform better in infection controls. The *TraceTogether* app² developed by the Government of Singapore can be a good example of a very influential tool that can collect up-to-date data and share the information with the public. As such, data availability is the basis for identifying challenges and finding possible solutions, and they have to be legitimate not only at national level, but up to city and community levels to effectively guide citizens. Similarly, cities and countries with up-to-date electronic registries of the poor and economically disadvantaged people (whether through systems that enable electronic transfers of income supplement or transport fare subsidies) will be able to intervene with fiscal transfers to help with income loss.

When a crisis fades out, a multisectoral impact assessment can be conducted by utilizing cutting edge technologies, such as AI, call detailed records, smart thermometers, and nighttime light data. The use of such technologies will enable comprehensive understanding of COVID-19 impacts, ranging from predicting outbreaks tracing, estimating extent of unemployment, and to assessing health risks. This will be especially beneficial for many high risk areas where are inaccessible due to infectious clusters of disease.

However, it should be noted that cities are often significantly constrained by the lack of such data and technology. In the majority of countries and cities in the developing world, foundations of data are quite poor. Data governance is inadequate, as a result of which up-to-date data is not available when crises like COVID-19 strike. For example, even in cities where there are geospatial layers of hospitals and services, the metadata on hospitals capacity, doctors etc. is missing, which hampered the ability of governments to respond fast to crisis and support long term. Any analytics without credible, up-to-date data may wrongly shape future responses and systems. Moreover, increasing reliance on big data, such as mobile phone GPS data, raises concerns about privacy protections, even if governments clarify that data is only for use in benefiting the public and protecting detailed information about individuals, which sheds light on the need of further social consensus and discussions.

3. What the World Bank Can Do to Assist Cities?

The World Bank’s Urban and DRM teams stand ready to support client cities and DRM agencies to design and implement immediate and short-term emergency policies and interventions aimed at reducing the spread of the epidemic, caring for impacted groups, as well as reducing risk

² <https://www.gov.sg/article/help-speed-up-contact-tracing-with-tracetgether>

exposure for vulnerable groups. In the medium/long term, we are also equipped with a mix of instruments to support early recovery and preparedness for future crises (Table 2 and 3).

Emergency interventions to protect vulnerable groups and flatten the curve

Existing DRM systems could be a foundation for effective response to urgent needs of cities and communities. Since epidemics and pandemics were included in the Sendai Framework for Disaster Risk Reduction, many countries have developed well-defined disaster risk management and governance systems with support from the Bank. In this case, the Bank can help cities and DRM agencies adapt and scale up the existing DRM infrastructure including early warning systems, linking disaster preparedness and response systems to health-emergencies, education materials for sanitation, public awareness programs, etc. Cities lacking such DRM infrastructure can establish an agile system drawing upon the Bank’s global experiences, and further develop sustainable mechanism for long term.

Within existing slum upgrading programs, the Bank can channel emergency financing for basic infrastructure, shelter improvements, community engagement and interventions targeting the urban poor. Ongoing slum upgrading programs in cities can be used in the short term to roll out on an emergency basis: (i) water provision; (ii) handwashing campaigns; (iii) sanitation facilities; (iv) waste collection and management; (v) community Engagement and training on prevention; (v) access to health services; and (vi) targeted social safety net programs (e.g. conditional cash transfers, cash for works programs, fee waivers, and targeted cash or in-kind – e.g. food - transfer schemes). Moreover, effective community engagement drawing on existing social and community structures may help to mitigate the impact of outbreaks in neighborhoods where marginalized communities remain at-risk often within a context in which social distancing is impractical, health systems are deficient and public spaces lacking. In Indonesia, a national slum upgrading project leveraged a network of tens of thousands community volunteers who can be quickly trained to act as disease surveillance first point of contact, leading to successfully targeting and quickly delivering resources to over 6,000 of the poorest *kelurahans* (neighborhoods).

The Bank’s geospatial expertise and innovative tools can effectively support clients to identify hotspots of disease transmission in cities. Available geospatial tools using technologies³ such as earth observation, remote sensing, drones, and artificial intelligence, can for instance help assess overall accessibility to urban health services, infrastructure and amenities, and the location of hospitals and clinics vis-à-vis specific vulnerable groups (i.e. the elderly, single mothers, those with no access to cellphone network). Areas of heightened risk for disease transmission due to the intersection of population density and the (absence) of infrastructure and services can also be assessed across cities for which data exists to predict areas of potential rapid spread of contagion. In collaboration with the Health team, the Urban and DRM teams can immediately share relevant data and information with cities and communities, and further develop follow-up analytical work and technical assistance. This way can also raise the responsiveness of local governments to crises.

This calls for greater investments in geospatial data and analytics and smart urban governance systems. The Bank, in partnership with development partners and cities, has developed a rich set of technology and tools. The City Resilience Program (CRP), the Global Smart Cities Partnership Program and the Spatial and Territorial Development Global Solutions Group (GSG) are well positioned assist cities to leverage geospatial data and spatial analytics to strengthen resilience and/or scale up investments in smart city infrastructure through the Bank’s operations.

³ To name a few, there are the Urban Planning and Decision-Making Tools under World Bank’s City Planning Labs, DRM analytical tools/platforms under GFDRR, the Hotspots/Suitability tool (https://youtu.be/9p20I_o74dM) developed under GPSDD, EO4SD analytics jointly developed with ESA. There are also other external platforms that enable large scale public engagement and consultation processes developed by private entities or NGOs.

Short-term interventions to support early economic recovery

Short-term interventions are needed to quickly promote economic recovery in cities and deliver social protection schemes for the urban poor, aligned with ongoing operations. The activation of the Contingency Emergency Response Component (CERC) in projects can avail unspent and unallocated project funding towards emergency interventions including to finance small labor-intensive work programs for neighborhood improvement, slum upgrading, small sewerage and drainage networks and emergency waste management operations, all of which are important to prevent future disease outbreaks. Approved Catastrophic Deferred Draw Down Option (Cat DDO) operations can be disbursed literally within 48 hours from declaration of national emergency and receipt of the government request, with the proceeds used for emergency response. Cat DDOs lacking a health trigger for disbursement can be restructured to avail funding for crisis response⁴. Engagement with NGOs and community groups is also critical for implementing short-term recovery interventions as well as community outreach and public awareness campaigns.

The DRM practice has extensive experience in conducting post-disaster, multi-sector needs assessments that are critical to inform recovery policies post COVID-19 crisis. In addition to rapid city mapping during the crisis to predict risk transmission hot spots, the Urban and DRM practice has extensive geospatial expertise to help measure spatial and urban economic impacts of COVID-19 globally. The existing DRM experience and established methodologies for post-disaster needs assessment (PDNA), damage and loss assessment (DALA), and resilient recovery planning can be leveraged, with these efforts carried out in coordination with other practices and development partners. Analytics to assess the relationship between the level of COVID-19 impact across cities and the various types of applied containment measures (e.g. from basic social distancing measures to full-scale city lockdown) will also be critical to inform future policies.

Scaling up municipal finance interventions and labor-intensive programs for neighborhood and housing upgrading programs and basic service delivery are important to improve the local economy and living conditions in the short term. Municipal finance programs can allow local governments to stabilize municipal operating budgets through block or conditional grants and provide an investment framework to continue critical service delivery and a short-term boost of job creation and local economic stimulus. Neighborhood upgrading programs involve small scale construction works that generate local jobs. These provide “quick-wins” to immediately improve living conditions (e.g. improving dilapidated roads and open spaces, clearing drainage systems and upgrading community centers) and provide communities with public spaces and facilities that can be used for livability or preventive and care measures. Similarly, community driven development (CDD) programs targeted at the urban poor finance small-scale works using community contracting and labor. These can be designed as fast disbursing block grants directly to community groups. Finally, the provision of small grants or micro-loans could help households make needed shelter improvements for resilience and in the process stimulate the construction industry, which many informal urban poor workers rely on for jobs. This can also serve to reduce spatial inequalities within cities and to build longer-term household wealth.

Medium/longer term recovery to build health resilient cities

In the long run, the Bank can support scaling up existing slum upgrading programs. Investments in slums and informal settlements are needed to provide infrastructure for resilience (including drainage systems) based on risk assessments, as well as early warning systems. Equally needed are interventions to strengthen linkages across agencies (e.g. emergency management and public health) and prioritize infrastructure and service delivery at vulnerable groups such as those living in informal settlements who typically bear a disproportionate burden of impact. This is important to build longer term resilience to shocks such as COVID-19, and also to reduce the social disparity that exists in cities and community resilience. National housing programs can be also helpful to

⁴ Of the 17 activate Cat DDOs for \$2.4 billion, 8 countries have triggered as of March 27, providing over US\$1.2 billion in immediate financing.

support the capital and labor-intensive construction sector, while supporting the production of adequate housing options for low and moderate-income households. For example, in Brazil, the *Minha Casa Minha Vida* was designed as an economic stimulus program, creating 1.3 million jobs in 4 years by 2013, which is equivalent to 2.6% of all formal jobs in Brazil.

The Bank is also well-positioned to help cities and DRM agencies design and implement land use and spatial planning strategies that enhance disease-resilience and public health. Enacting regulations especially for food markets and abattoirs within dense urban neighborhoods can be supported through DPO-supported policy reforms. Equally important is ensuring Bank-financed social infrastructure (e.g., markets, hospitals, schools) meet stringent public health and building design standards for infection control, such as hand washing stations at building entrances and separation of high-risk areas. Public building designs need to be flexible to allow easy adaptive repurposing for emergency triage operations. Improving quality and equitable distribution of public spaces, such as parks, pedestrian and cycling networks, is also important for public health. To develop a baseline of and monitor such projects, it is necessary to carry out in-depth health risk assessments based on actual and proxy indicators of urban health (i.e. physical activity) across cities and communities. Starting from a quick pilot in countries where the Bank has good access to city level geospatial indicators, this can be extended to other countries.

The Bank can promote best practice multidisciplinary approaches for integrated institutional emergency response and financing systems at the local level. While the Bank's existing financial and institutional support in DRM is often tailored to natural/climate disasters and at the national level, the COVID-19 crisis highlighted the importance of developing integrated emergency financing strategies that encompass health emergencies and to also scale up action at the sub-national level. The Bank could strengthen local governments' capacity to coordinate efforts with local stakeholders and national and subnational governments. There are huge gaps in local level coordination in most Bank client countries. The Bank's municipal P4Rs could be an important instrument for this effort. This includes policies and governance strengthening for elements such as cluster systems response for supply chains, transport and logistics systems, food security, water and waste management, and support for vulnerable groups. Promoting urban agriculture can be a good example of generating multi-sectoral impacts, because it can have positive impacts for food security, livelihoods, public health, and the environment.

The Bank can also support the establishment of regional development plans and coordination entities. The Bank can assist different tiers of governments to set up temporary or permanent metropolitan bodies to spatially coordinate capital investments and economic stimulus spending. Territorial development DPOs could be strengthened to incorporate health resilience aspects into integrated territorial plans at the sub national level and municipal land-use plans.

Finally, engaging the private sector in urban infrastructure and service delivery is critical to maximize development impact in the long run. The City Resilience Program focused on scaling up finance for resilient urban infrastructure including through private investment to enhance service delivery while also reducing burdens on local governments.

[Table 2] DPO, Urban and DRM Prior Actions

Timeframe	Strategies	Prior Actions
Short-term emergency actions	Local governments and DRM agencies' role in managing social distancing to flatten the curve	<ul style="list-style-type: none"> - Policies for closure and management of public systems (e.g. schools; transit systems; roads and public parks) during emergency and normalization period adopted - Policies related to regulating the functioning of private facilities and events (e.g. businesses – essential versus non-essential; sports events and other places and events with large gatherings) during emergency and normalization period prepared - Policies to supplement human resources in critical functions related to frontline emergency management (medical professionals, emergency response, etc) established/implemented - Policies related to regulating the use of private facilities and repurposing them during health-related emergency response and early recovery. - Policies related to incident management structures, including multi-incident application and functional role rosters. - Policies related to international support coordination for infectious disease outbreaks or health-related emergencies, including indicators for central agency coordination, application of service standards, logistics management, and pre-existing service agreements. - Policies related to shelter management in response to infectious disease outbreaks or health-related emergencies including temporary housing, multifunctional open space, and evacuation routes. - Policies related to emergency social services, including ambulance capacity, water/sanitation/hygiene/electricity services, vulnerable population support, and mortality management.
	Local governments and DRM agencies' role in providing safety net programs to support vulnerable groups	<ul style="list-style-type: none"> - Policies targeted at protecting vulnerable groups from an exacerbated impact due to income loss (e.g. temporary moratorium against water and power utilities disconnecting non-paying customers or against mortgage defaults and tenant evictions, etc) adopted/implemented; - Safety net programs targeted at vulnerable groups (e.g. lunch programs for children in poverty, income support for informal workers and daily laborers, etc) adopted/implemented; - Support programs for emergency and essential frontline workers in sub-national governments (e.g. day-care for children of medical professionals and essential city workers) adopted/implemented; - Support emergency programs to address actual or potential outbreaks in slums (e.g. providing essential support to isolated households/communities)
	Local governments and DRM agencies' role in management of sub-national public facilities	<ul style="list-style-type: none"> - Policies for operational health and safety of abattoirs and live market animals and their operations and maintenance. This is urgent and has been raised as a key issue by our new MD as many of these diseases (swine flu, avian flu, etc) emanate from such facilities. - Identification of public facilities (e.g. community halls; stadia; schools, etc.) for utilization in management of a pandemic and development /adoption of a strategy for repurposing these facilities (evacuation centres to house evacuees, temporary medical facilities, etc);

		<ul style="list-style-type: none"> - Policies and interventions to reduce health risk exposure for vulnerable groups (social distancing with delivery of critical services to elderly and those with prior conditions, coverage for the uninsured, etc) adopted/implemented; - City/sub-national public health facilities re-oriented to prioritize pandemic cases - Systems for purchase and supply of priority medical equipment including protective equipment, ventilators, etc, to health facilities established - Policies related to activation and use of sub-national Emergency Operation Centers (EOCs) and related Emergency Response Plans, including indicators for resilient structures, mobile command posts, decision support systems and social-media monitoring. - Policies related to logistics warehouses and response stations, including warehousing networks, infectious disease outbreaks or health-related emergencies response facilities, and urban response stations.
	Financing of emergency response by cities and sub-national governments	<ul style="list-style-type: none"> - Fiscal transfers to compensate for OSR losses for municipalities - Conditional grants to urban agencies to support COVID response activities and purchase of equipment (e.g. PPE) - Policies related to effective financial management which outline and provide guidance on the processes involved in managing response costs during the activation of the emergency response structure and protocols (the policies should outline, among other things, those responsible for managing response expenditures for costs incurred during response and early recovery as well as the relevant expense authorities and applicable thresholds). - Policies related to financial management procedures which outline the scope, steps and responsibilities for financial tracking of all eligible and approved emergency response costs, authorizations of those expenditures and processing of invoices. - Policies related to infectious disease outbreaks or health-related emergency response financial preparedness, including indicators for ex-ante funding for emergency response, fast-track procurement, financial protection strategy, and risk-based critical infrastructure investment plans. - Policies to temporarily freeze or restructure short-term debt obligations to national government and GFIs established; - Safety net programmes to vulnerable households established (including informal workers, informal settlers and homeless) - Programs to enable access to emergency health services for low income urban residents including community-based testing and treatment.
	Local governments and DRM agencies' role in raising awareness and information campaigns	<ul style="list-style-type: none"> - Public education and information campaign on pandemic management prepared - Municipal / local-government website that highlights, inter alia: <ul style="list-style-type: none"> • available resources for citizens and businesses in national and local languages; • highlights the roles & responsibilities of each of the entities & reporting structure among them - Policies related to community resilience programs to enable a local community response to health-related emergency focusing on volunteer management, public preparedness education, active messaging and warning dissemination, and community-led mitigation. Mobilization of community organizations and other NGOs in informal settlements, developing plans on social distancing, support to vulnerable groups, and emergency responses.
Medium/	Enhancing effectiveness of	<ul style="list-style-type: none"> - Systems developed to enhance the efficiency of public expenditure by enhancing linkages between strategic spatial development planning and capital investment planning O&M budget and plans developed to accompany annual development

<p>Long term actions</p>	<p>public expenditures at the municipal/ sub-national level</p>	<p>programs / capital investment plans and ensure prioritized and targeted interventions to dense low-income neighborhoods to increase resilience.</p> <ul style="list-style-type: none"> • Legislation enacted to empower LGs to collect and spend more own source revenue (OSR); gradually phase out central restrictions on property tax base and rate revisions <p>- Policies adopted to scale up urban upgrading and investments in dense low-income urban neighborhoods in water, sanitation, drainage, access roads, and social infrastructure (labor intensive works can be used at the community level to facilitate economic recovery)</p> <p>- LG capacity/commitment strengthened for the delivery, O&M of infrastructure services and public assets that include prioritized and targeted interventions to dense low-income urban neighborhoods including vulnerable populations. These would include, inter alia, ensuring short term water provision; handwashing campaigns at the community level, sanitation facilities, solid waste collection and management.</p> <ul style="list-style-type: none"> • Identify dense low-income urban communities and needs for prioritized and targeted interventions. • GIS databases created of all LG physical assets (including clinics, schools, water and sanitation), age, operating status, maintenance schedule, appraised value (state land), and so forth • Adopted policies, standards and process for Open Data sharing for citywide digital data <p>- Policies to increase general purpose fiscal flows to SNGs to compensate for own-source revenue losses established or enhanced;</p> <p>- Conditional grants to SNGs to fund emergency management needs (equipment purchase etc.) established</p>
	<p>Strengthening zoning, land use and territorial planning and coordinating planning across multiple jurisdictions</p>	<p>- Policies for land use planning and zoning of abattoirs and live animal markets, regulating their siting, operational health and safety requirements including type of animals and regulation of wildlife animals, operation and management, waste management, etc.</p> <p>- Policies to empower and clarify local government mandates to ensure efficient delivery of basic services and infrastructure. For example, for an under-preparation DPF in Egypt, a prior action has been proposed pertaining to government approval of a strategy to reform the territorial management of major metropolitan areas (such as Cairo and Alexandria).</p> <p>- Policies to encourage and enable territorial entities to collaborate in delivering services and carrying out regional investments. Prior actions could include (i) the development of territorial & land-use plans at sub-national to foster regional integration, and (ii) the updating of municipal land-use plans incorporating urban-rural linkages. Example: Colombia Institutional strengthening for territorial development DPL 2019.</p> <p>- Policies to establish metropolitan coordination for capital investment. Metropolitan bodies need a rational and narrow mandate, positive decision-making power (versus no-objection role or ad hoc consultation), dedicated and predictable financial resources, and dedicated support staff with technical expertise.</p>
	<p>Strengthening resilience of urban communities and businesses</p>	<p>- Policies and actions to increase resilience for dense slum areas to include, inter alia, emergency planning, early warning systems, improved neighborhood planning with well-networked and resilient infrastructure, waste management, public spaces and accessibility of dwellings.</p> <p>- Policies to address regulatory and cost impediments to tenure security for low income urban areas for longer term impacts that will facilitate private investments in neighborhoods, household improvements and household wealth creation.</p>

		<ul style="list-style-type: none"> - Prioritize scaling up of low-cost housing initiatives through enabling land and infrastructure access, financing schemes, etc. (with opportunities for labor intensive, low skilled work). - Develop and adapt citywide comprehensive mobility plans (CMPs) to increase connectivity for low income urban populations through better transport infrastructure and services. - Policies improving local business environment and land management: Introduce flexibility in land management to support SME and informal sector enterprises in cities; change role of LGs to move from being regulators to enablers of local business efforts. Example in the Kampala Local Economic Development Strategy; Punjab jobs and competitiveness P4R improves the business environment as well as facilitate access to prime industrial land and key services to firms.
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[Table 3] List of Potential Urban and DRM Investments and Technical Assistanes in response to COVID-19

Thematic areas	Short-term interventions	Medium/Long term interventions
Comprehensive support for the urban poor and vulnerable groups	<ul style="list-style-type: none"> - Fast-track slum upgrading projects including public awareness programs, infrastructure and service delivery including water and sanitation provision, and waste collection (I) - Safety Nets for the Urban Poor, including cash transfers, cash for works programs, fee waivers, and targeted cash or in-kind transfer schemes (e.g. food distribution, food stamps, vouchers) with targeted interventions focused on vulnerable groups (the elderly, children, women, etc) (I) - Urban CDD and Labor-Intensive Public Works as fast disbursing block grants to community groups or as RBF schemes with CBOs for service delivery (water provision, waste collection), with a focus on urban slums (I) - Housing Improvement program through providing grants and/or micro-loans (or a combination) (I) - Geographically targeted awareness campaign in slums and informal settlements (WASH, communication, etc) (I) 	<ul style="list-style-type: none"> - Scaling up urban agriculture for income and food safety for the urban poor, based on assessments of its benefits and constraints (i). - National housing programs can be helpful to support the capital and labor-intensive construction sector, while supporting the production of adequate housing options for low to middle income households (I) - Scaling-up slum upgrading including emergency planning, early warning systems, well-networked and resilient infrastructure and service delivery(I) - Scaling up low cost housing initiatives through enabling land and infrastructure access, financing schemes, etc. (with opportunities for labor intensive, low skilled work) (I)
Spatial analytics and smart infrastructure	<ul style="list-style-type: none"> - Activating/ scaling up existing disaster preparedness systems, including early warning systems, preparedness response, linking to health-emergencies, education materials for sanitation, public awareness programs (I) - Rapid assessment of accessibility to public amenities and facilities such as hospitals and clinics (A) - Spatial analysis of hot spots and areas of disease transmission risk due to population density and/or concentration of vulnerable groups and health characteristic assessment (A) - Provision of connectivity infrastructure and amenities in risk hotspots, e.g. free wifi, ATMs, electronic payment methods to increase connectivity/ accessibility to information and services (I) 	<ul style="list-style-type: none"> - Development of smart cities program including infrastructure, regulations and data/systems for mapping and planning (I) - Expansion of digital infrastructure in public spaces and facilities (I)
Resilient zoning, land use planning, and territorial coordination	<ul style="list-style-type: none"> - Development of territorial coordination plans and agencies (A) - Urban Agriculture pilot interventions (I) - Identification of community-based entities and development of network for community outreach during emergencies (I). 	<ul style="list-style-type: none"> - Advisory services on zoning and planning regulations and tools and analytics on zoning policies' impact on and infectious diseases spread (A) - Multi-sectoral impact assessments of COVID-19 on cities, including an assessment of impacts of containment measures in cities on disease transmission (e.g. social distancing ,full-scale lockdown of cities) (A)

		<ul style="list-style-type: none"> - Improvement of critical goods and services’ supply chains through implementing critical storages, promoting urban agriculture, and transportation (A/I) - Application of public health and building design standards for infection disease control to all Bank-financed social infrastructure (I) - Adaptation of flexible and adaptive building designs so that they can be easily repurposed for emergency triage operations (I) - Scaling up urban upgrading with improved public spaces, including hazard local markets, transport network, and emergency contingency plans (I) - Address regulatory and cost impediments to land tenure security to facilitate long-term private investments in neighborhoods, housing improvements and wealth creation - Portfolio approach to transform planning system at different level of governments - Establish/strengthen emergency management system/preparedness at city level via both hardware (EOC, equipment) and software (protocol, training, community mobilization)
Institutional strengthening and municipal finances	<ul style="list-style-type: none"> - Advice on business continuity planning for government, incorporating pandemic planning and preparedness (A) - Fast-track support to municipal finances (I/PforR) focused on establishing funding mechanisms to resource short/medium term responses 	<ul style="list-style-type: none"> - Institutional strengthening of local governments related to supply chains; transport and logistics systems; food security and water; waste management (I) - Improvement of subnational financial management and investment prioritization and coordination (I)

* (A)=ASA, (I)=IPF/PforR