

# What to Learn from Vulnerable Regions for Healthy Cities: Extracting Embedded Components of Covid-19 Practices

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## Healthy Cities and Vulnerability

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A healthy city is described with regard to its cleanliness, accessibility to environmental and health services, safety, and respect for different social norms and lifestyles. The purposes of healthy cities are to provide quality, safe and clean living areas, sustainable ecosystems, strong communities, citizen control of decision-making, participation, easy access to basic needs, interaction, and strong and innovative economies, maintain connections with citizens' cultural backgrounds, and ensure accessible health services and positive health status (WHO, n.d.). In the era of Covid-19 management and response, vulnerability levels of cities have been critical determinants in providing public health.

Many studies have been carried out on the vulnerability levels of cities to combat the Covid-19 pandemic, mostly tending to create indicators and indices for assessment. The widely used parameters of these indices are based on socio-economic, demographic, structural (housing), and health infrastructure data. The vulnerability indicators in these studies can be grouped as 'Urban infrastructure', 'Human capital', 'Income and work', 'Longevity/life expectancy', and 'Education' (Acharya & Porwal, 2020; de Souza et al., 2020; Daras et al., 2020; Biggs et al., 2021; Sahu & Mishra, 2021).

On the other hand, Covid-19 has been experienced differently in each country with different levels of vulnerabilities. However, studies on Covid-19 in the Global North and their inputs into vulnerability discourse dominate the literature. To empirically reveal the dominance of the Global North, the Web of Science (WOS) database was reviewed based on 'countries of research' and the findings were grouped into the seven regions as shown in Figure 2. The regions were based on the six WHO statistical regions except for 'Americas', which was divided into 'North America' and 'South America' in this study to facilitate comparative evaluation of the Global South and the Global North.

The WOS database review was constructed on 5 keywords: 'Covid-19 and Social Vulnerability', 'Covid-19 and Vulnerability Index', 'Covid-19 and Vulnerability (except vulnerability index and social vulnerability)', 'Covid-19 and Best Practices', and 'Covid-19 and Healthy Cities'. The review is narrowed down with regard to research area by omitting unrelated research. The resulting 141 pieces of research into social vulnerability, 122 on vulnerability indexes, 1,858 on vulnerability, 361 on best practices, and 53 on healthy cities are evaluated.

As shown in Figure 3, studies from North America and Europe accounted for 27 percent and 35 percent, respectively, of all research. The smallest number of studies came from the Eastern Mediterranean, Southeast Asia, Africa, and South America, respectively. For each of the five keyword-based categories examined, North America and Europe had the greatest number of studies.

Among targets of WHO Europe, 'a strong, mutually supportive and non-exploitative community' and 'access by the people to a wide variety of experiences and resources, with the chance for a wide variety of contact, interaction and communication' are two key factors related to social organisation which cannot be detected in indicator-based literature since they are not measurable. Yet, in the era of Covid-19, community engagement to promote well-being, enabling people to work together, and citizen participation in managing the pandemic and preventing transmission has been another critical component of health besides the efficiency of the health system (WHO, 2020). However, the Global North dominated, indicator-based literature may underestimate these collective actions in vulnerable regions. Therefore, the experiences of the Global South, considered vulnerable according to indices, in overcoming its vulnerabilities define an alternative pathway to healthy cities.

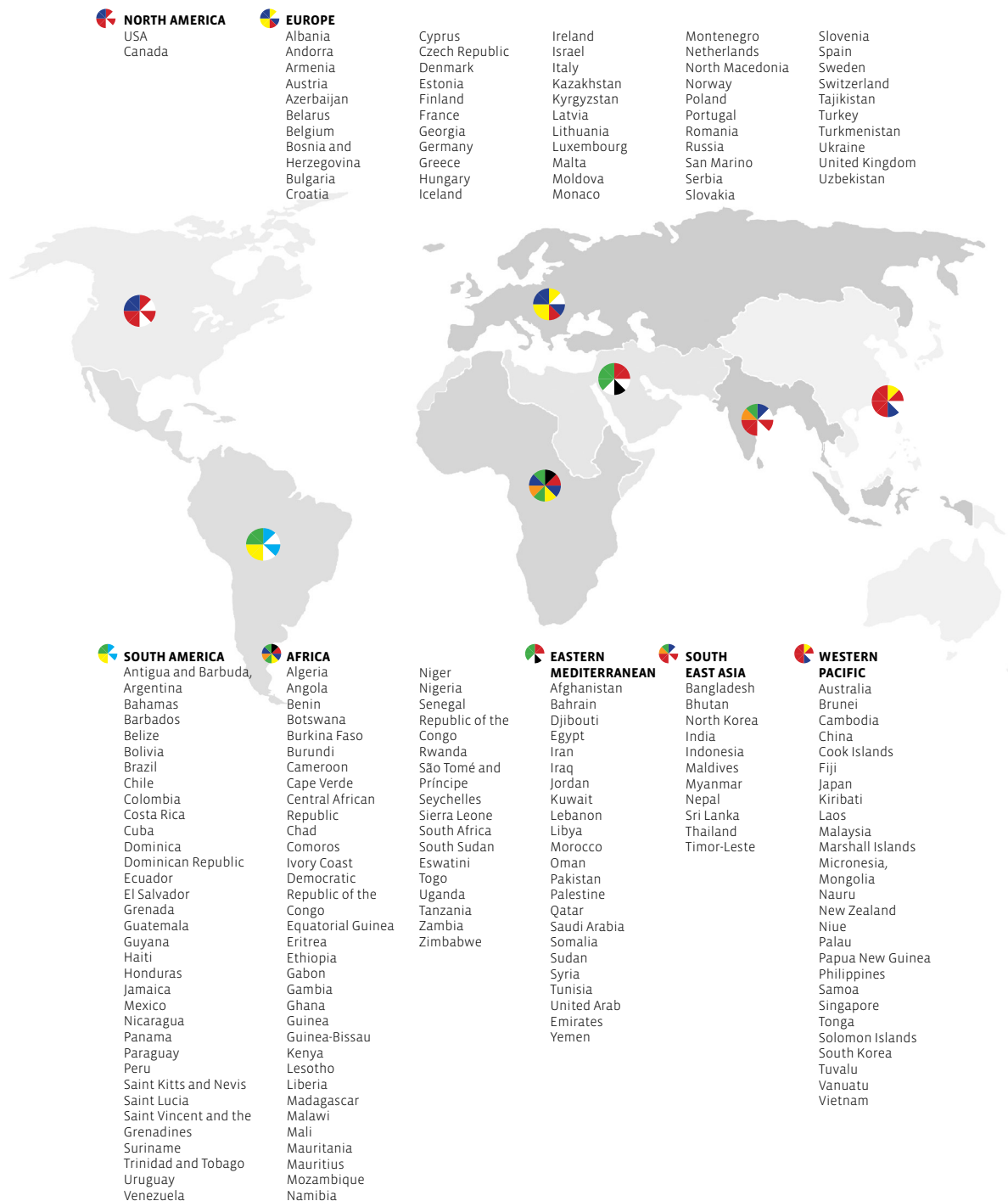


Figure 2. The regional categorisation of the literature review. Source: Authors

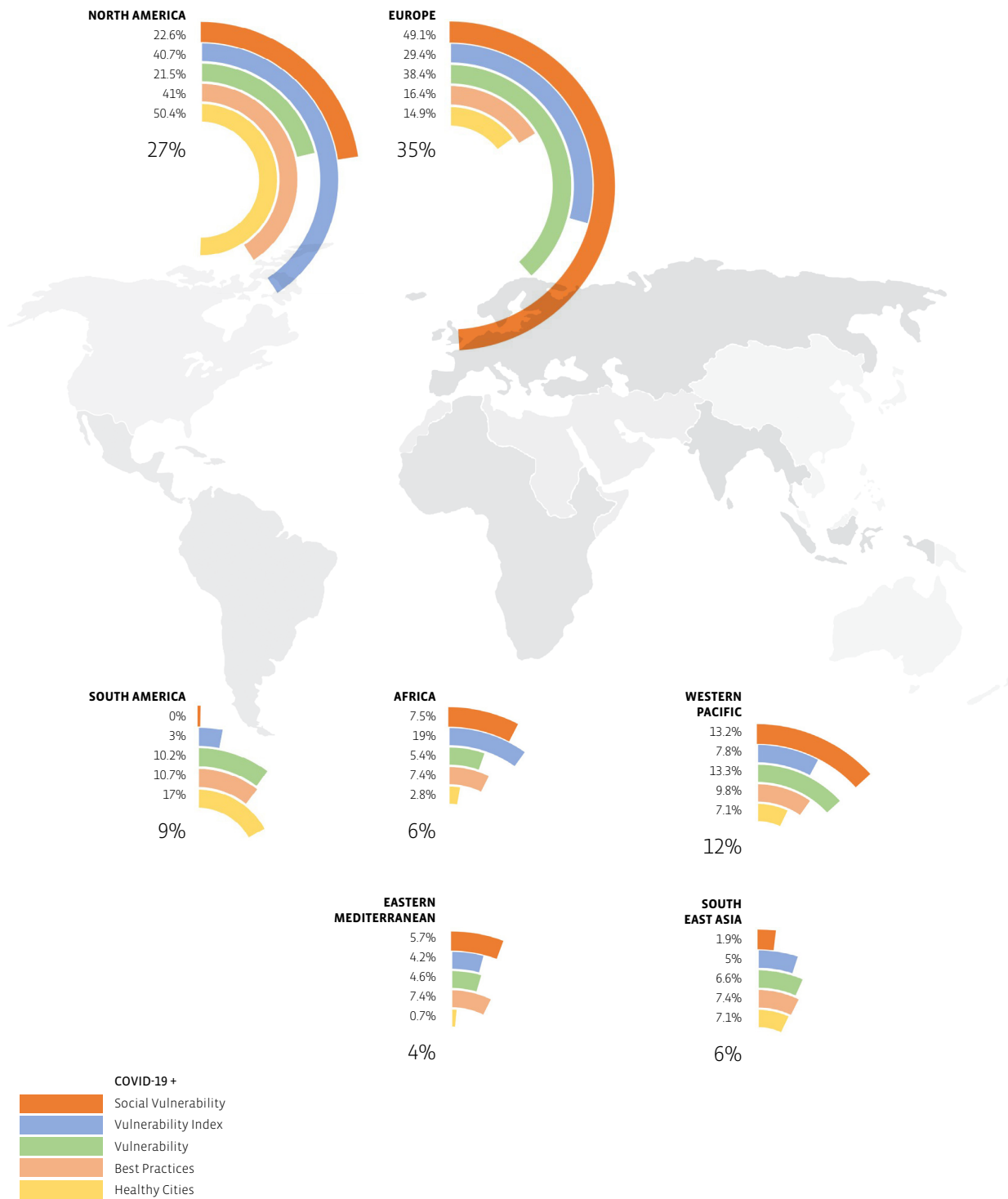


Figure 3. The distribution of studies regarding regional categorisation. Source: Authors



Figure 4. Research samples and good practices. Source: Authors

The aim of this research is to go beyond the reading of vulnerability based on indicators. This study seeks to explore the 'embedded' components that are ignored in Covid-19 process management and related indices/indicators and discuss healthy city policies through these components, by harnessing good practices and collective actions. The research sample (see Figure 4) comprises good practices in countries with high vulnerability in the Global South, namely Brazil, Turkey, India, South Africa, and China. A number of countries, including these, were firstly examined for their responses to the Covid-19 process in pandemic regions within the framework of urban resilience (Aygün Oğur et al., 2021). In addition to this elaboration, some parameters, including socio-economic structure, social, economic and spatial vulnerability of the countries, extent of social inequality, virus transmission rate in the population, data availability, and existence of alternative management approaches to Covid-19, singled out these countries for analysis. The role of different socio-spatial components in creating and governing healthy cities, which will be analysed qualitatively, will be considered through an examination of collective actions in these practices, rather than stereotyped vulnerability indicators.

## COMMUNITY-BASED ORGANISATIONS

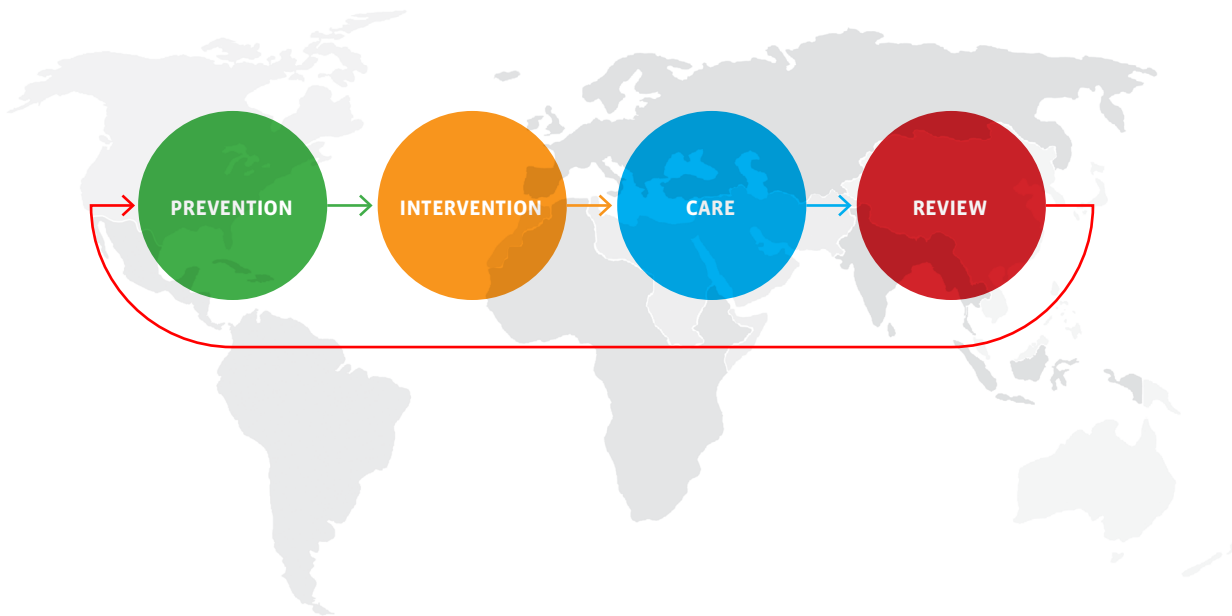


Figure 5. Dimensions of collective actions parallel to the Covid-19 process circle. Source: Authors

### Dimensions of Collective Action Taken to Manage Covid-19

The dimensions are formed parallel to the Covid-19 process circle as shown in Figure 5. 'Prevention' represents the mitigation actions of the first stage of Covid-19 emergence, 'Intervention' denotes responses to Covid-19 responses, 'Care' stands for socio-economic recovery actions, and 'Review' presents the monitoring of initial processes, evaluation of responses, and targeting of outputs (Aygün Oğur et al., 2021). The study is constructed on the qualitative analysis of secondary sources. In addition to conventional publications such as articles and books, shadow literature, including reports on Covid-19 management process of case countries, online sources of non-governmental organisations (NGOs) and communities, and media data were analysed from a narrative perspective to read, classify, and create dimensions from collective action stories.

#### Community-based actions on prevention

The actions taken to manage the Covid-19 in Dharavi, India were at the forefront of putting community engagement at the heart of the process. This locality was predicted to be devastated by the pandemic, since it was home to a densely populated informal settlement of 1.5 million people and confronted by multiple layers of issues. Nevertheless, prevention activities based on collaborative approaches helped mitigate the predicted effects of the outbreak. For instance, the Dharavi Dream Project (DDP), a non-profit initiative and volunteer group of masked rap-



Figure 6. Dharavi Dream Project (DDP). © Dharavi Dream Project, 2020

pers (Figure 6), wrote a song promoting public awareness of Covid-19 health instructions (Ghosh, 2020). The model utilised in Dharavi to combat Covid-19 has also been deemed a successful example of active collaboration between different community-oriented networks, also known as the ‘Dharavi model of Covid-19 management’ (Hassan, 2020).

In Brazil, *G10 das Favelas*, a business support network aimed at favelas (Figure 7), trained community first aid brigades and organised information campaigns and hygiene procedures to help prevent Covid-19 transmission. One effective example of social protection is the use of popular music such as Funk’n Bossa Nova to raise awareness about personal care and hygiene (Duque Franco et al., 2020).

Also in Brazil, efforts were made to prevent the spread of the epidemic in informal communities. For example, In Morro dos Prazeres, gang members only allowed residents to roam in groups no larger than two, while smugglers declared a curfew in Rocinha, one of Latin America’s largest favelas, and distributed soap in Santa Marta and instructed residents to wash their hands for hygiene. Gang members also told shops and churches to reduce their opening times in parts of the Complexo da Maré. In addition, favela activists operating as *#COVID19NasFavelas* organised donation and awareness-raising campaigns (Briso & Phillips, 2020) (Figure 8).

In China, social media provided the most support to efforts to prevent the pandemic and raise awareness in the community by means of transparent knowledge. Chinese social media – Sina Weibo and WeChat – plays a very im-

portant role in social interaction and political intervention to convey accurate information. Moreover, WeChat groups were established by Chinese nationals abroad for fundraising, collecting donations, and coordinating the shipment and distribution of healthcare supplies (Chen, 2020). The civil society was an important element in preventing the spread of Covid-19 inside China and directing relief to victims of the disease. Although restrictive policies toward civil society significantly limited the impact of civil society organisations during the pandemic, civil society nevertheless showed strength and vitality in constructing social resilience. Caritas Youth and Community Service, Health in Action, Lingnan University, and Hong Kong University organised the Ultra Violet Project in Hong Kong (Figure 9), which provided free and efficient ultraviolet light (UV) disinfection services for sanitising crowded living environments of informal settlements (Cai et al., 2021).

### Community-based actions on process design for interventions

A case study was reviewed of community engagement that drew attention to the process design for interventions in Kolkata, West Bengal, India. An individually initiated group of doctors, health workers, and Covid-19 survivors and their families created a community under the name of COVID Care Network (CCN) (Loewenson et al., 2020). The Survivor's Network helped people in need by guiding them through telemedicine to raise awareness and counsel them in an effort to combat Covid-related anxiety. This network worked as a bridge between public services and the community (Yengkhom, 2020).

Cape Town Together, identifying themselves as a network of self-organising neighbourhood-based groups taking action, and responding in unique and diverse ways to Covid-19 and beyond appeared as a model of Community Action Networks (the CAN model) in South Africa (Qukula, 2020). These social solidarity networks, consisting of more than 150 community action networks, responded primarily to food needs (Hamann, 2020). At the same time, they organised volunteers to provide support for social activities, delivering care packages to the homeless, and making masks, blankets, and winter clothes (Loewenson et al., 2020).

In Brazil, CITA is a community that includes partnerships between the civil society, indigenous leaders, and private and local public sector institutions in the Amazon. It was originally established to support public policy related to education and local public sector institutions. CITA facilitated food distribution and donation of first aid products with support through crowdfunding. With the help of the Federal University of Western Pará, the movements of indigenous students in urban areas were tracked to prevent them from spreading the virus rapidly. The Health and Happiness Project (*Projeto Saúde e Alegria*) is a civil society organisation based in the Amazon. They launched the Health and Happiness without Corona (*Com Saúde e Alegria Sem Corona*) campaign to deliver resources (ambulance services and the like) to riverside communities during the pandemic (Figure 10). They also produced and distributed masks in partnership with other local civic organisations (Cavalcanti Muniz et al., 2021).

With crowdfunding campaigns, the Residents' Association in the Paraisópolis community of São Paulo worked with city health professionals, NGOs gathered under the *Parceiros da Educação*, and the Albert Einstein School of Medicine in São Paulo to turn local gyms and schools into quarantine centres and provide ambulance support in areas where the emergency response was inadequate. The association organised marches in São Paulo demanding water, food aid, public ambulances, and virus testing (Loewenson et al., 2020) (Figure 11). They mobilised





Figure 7. G10 das Favelas network. © G10favelas, 2020



Figure 8. #COVID19NasFavelas are organising donation and awareness campaigns. © Covid19nasfavelas, 2020



Figure 9. Ultra Violite Project in Hong Kong. © Ultra-Violite Project, 2021



Figure 10. Health and Happiness Project. © Health and Happiness Project, 2011

community volunteers to do a variety of relief work with private donations, such as communicating remotely with sick residents and responding to emergency calls in the area. They started a ‘street presidents’ programme’ where community volunteers monitored families for symptoms of Covid-19. Activists from Paraisópolis and other favelas have been engaging in collective action for low-income and unemployed workers (Vilela, 2022; Duque Franco et al., 2020).

In China, The Lujiazui community in Shanghai has been successful in establishing a public health emergency management plan. They supported volunteer groups (soldiers and minorities) and social organisations to prevent pandemic-related damage by distributing masks, providing food aid, and delivering knowledge activities. Also, an outbreak management map, based on the population distribution map, was used to identify the various levels of risk (Liwei et al., 2021).

In Turkey, headmen of neighbourhoods had been key actors in the pandemic era due to their direct interaction with the community (Con Wright & Çelik, 2022). They acted like bridges between the government and citizens during the pandemic (Altunöz, 2020). They organised young people and volunteers to identify needs, supply food for people under curfew, direct donations to people in need, distribute local or central government aid, and work in coordination with neighbourhood solidarity networks (Con Wright & Çelik, 2022). For instance, the Kadıköy Solidarity Network (Figure 12) in İstanbul was established when pandemic restrictions started. Neighbourhood volunteers worked together to do grocery shopping for the elderly, feed stray animals, entertain children, and supply free food (Demirtaş, 2020). They also produced face shields for health professionals.

Both inhabitants and businesses located in the neighbourhood participated in this collective action. They created a collective budget to finance solidarity actions without any financial support from local or central government (Şenyıldız, 2021). The Vefa Social Support Group was established by the Ministry of Interior on March 22, 2020, with representatives of local public institutions, neighbourhood headmen, and local NGOs to meet the needs of disadvantaged groups during lockdowns (Figure 13). As an example of collaborative governance, the group operated nationwide, whilst various professional groups such as teachers, policemen, and local officials were assigned to help meet health and food needs (Yolcu & Sezgin, 2020).





Figure 11. Paraisópolis Residents' Association helps community members by having women sew masks and clothes for locals. © Paraisópolis Residents Association, 2020



Figure 12. Kadıköy Solidarity Network supplying free food in the neighbourhood. © Kadıköy Solidarity Network, 2020



Figure 13. Actions of Vefa Social Support Group. © Vefa Social Support Group, 2020

### Community-based actions on building social and economic care

Lockdown restrictions challenged many sectors including rural production. This situation prompted key stakeholders in Satara, India to find a solution that would provide social and economic management against Covid-19. The ‘farmers’ led farm-to-home model’ was created to overcome this threat (Loewenson et al., 2020). The Satara Farmers’ Revolutionary New Model innovated the processing and marketing logistics involved in delivering vegetables to the localities. These actions worked both ways, benefiting both the farmer and the consumer within the new chain supply model by removing the middleman’s cut (Chakrabarti, 2020; Pol, 2020). Another case of community-wide action on water and environmental protection to mitigate the resource crisis was an NGO called Paani Foundation (Loewenson et al., 2020; Pol, 2020).

The social enterprise FoodFlow (Figure 14) has been one of the community action networks launched in Cape Town to deliver food to residents. This network was forging a link to bring together producers (farmers) and families in need of food with the help of collaborative partners for distribution (Loewenson et al., 2020; Hamann et al., 2020).

The Kudumbashree model with its three-tier structure across the Indian state of Kerala consists of Neighbourhood Groups (NHGs), Area Development Societies (ADS), and Community Development Societies (CDS) (Karat, 2021). Community Kitchens (local food systems) are one state supported community-driven programmes of the Kudumbashree model (Figure 15). These kitchens were operated by local women volunteers to provide nutrition to urban residents in need of food. They also supported basic needs and helped enable an early, decentralised, participatory state-wide response (Loewenson et al., 2020). Additionally, the Sneitha gender help desk, reflecting Kudumbashree’s gender-sensitive attitude and online channels supporting rural India, assisted in the response to Covid-19, with participatory self-governance initiatives showing how democratic decentralisation has worked in favour of communities when it came to managing Covid-19 (Loewenson et al., 2020; Raghunandan, 2020). Finally, risk communication and community engagement in Kerala stand as an important response to Covid-19 (WHO, 2020).





Figure 14. FoodFlow action network. © FoodFlow, 2020



Figure 15. Kudumbashree community. © The Hindu Business Line, 2020

Community-based organisation Movement for Change and Social Justice (MCSJ) advocates health issues for Cape Town communities. They contributed to the management of Covid-19 by means of mitigation efforts, responding quickly and supporting key supplies such as food, water and sanitation, and delivering health care strategies (Loewenson et al., 2020). This health social movement was particularly important for the local response. Namely, the MCSJ helped fill the gap that could not be addressed by the government and other key actors by reaching local communities with its novel health and well-being education effort (Mbokazi, 2020).

Corona in the Outskirts (*Corona nas Periferias*), supported by Instituto Marielle Franco and Favela Em Pauta, is an initiative that raises awareness about the fight against coronavirus in the favelas of Brazil through the production of collective knowledge about the pandemic in informal settlements. Another important initiative is the Favela Mothers (*Mães de Favela*) campaign by Central Única das



Figure 16. Central Única das Favelas (CUFA) supports and cares for the children and elderly women living in slums. © CUFA, 2020

Favelas (CUFA), which supports and cares for children and elderly women living in slums (Figure 16). In addition, CUFA and the Marielle Franco Institute launched food collection campaigns (Duque Franco et al., 2020).

In Turkey, Deep Poverty Network (*Derin Yoksulluk Ağı*) was established in 2019 and launched its Change from Home Solidarity Campaign in 2020 due to rising inequalities caused by the pandemic (Deep Poverty Network, 2020). They connect donors and the needy via online marketplaces to provide basic requirements like food, hygiene products or baby products. Another social cooperative, Needs Map (*İhtiyaç Haritası*), collects needs data from individuals, institutional sources, and NGOs throughout the country and presents them through a map on its website to increase visibility and direct support. During the pandemic, they provided an online shopping platform for donors.

### Community-based actions on design and strategic review of responses

A case study in South Africa may provide an example of how community-based actions can engage with vaccine trials in a process of design and strategic review of responses. Community members and local-national health advocacy groups, including the Vaccine Advocacy Resource Group (VARG), Community Constituency Covid-19 Front, the South African National AIDS Council (SANAC) Labour Sector, the SANAC Civil Society Forum, the Tuberculosis TASK Team, Show Me Your Number, the Treatment Action Campaign, and the Stop TB Partnership actioned to be part of the planning of Covid-19 vaccine trial to overcome the lack of transparency with information (Loewenson et al., 2020; Karim, 2020)

In Rio de Janeiro in Brazil, the newspaper *Voz das Comunidades* updates information about on the Covid-19 pandemic (number of people infected, deceased, and recovered) with reporters in each favela every day (Duque Franco et al., 2020). Another alternative community-based organisation is FENATRAD, an old community of trade unions that played an important role in the struggle of domestic workers by informing them about their rights and organising seminars and conferences. It organised online events and national campaigns alongside traditional union activities to combat the pandemic (Loewenson et al., 2020; Cavalcanti Muniz et al., 2021) (Figure 17).



Figure 17. FANATRAD is an old community of trade unions for domestic workers. © Fanatrad, 2020

In China, the Shimo Document website enlisted the help of many volunteers to fill information gaps and create a health facilities directory in Wuhan by compiling lists of experts with various backgrounds (e.g., doctors, social workers, psychologists) to provide information and coordinate resources for treatment seekers (Chen, 2020).

## From Vulnerable to Resilient Communities

Actions under each dimension of the Covid-19 circle (prevention-intervention-care-review) give important clues on how each community engaged in the process. Most of the actions taken to manage Covid-19 took place in the first two phases of the pandemic, when mitigation and response efforts took place, rather than its further stages. They reveal how challenging it is to act as a community or a community-based organisation to make a wider impact on social and economic recovery from Covid-19. When it comes to drawing a sketch of the regions in terms of their ability to produce collective actions, Brazil takes the spotlight with its independent local organisations. While the community engagement in China targets the national scale to collaborate, in Turkey, there is a tendency to include local and government agencies in the process of local networking. Further, community organisations in South Africa consider monitoring and evaluation for their activism, while model-based and well-rounded approaches are crucial for the cases of India. To conclude, the embedded components expected to guide the strategies of healthy cities are:



- › A sense of community ownership
- › Long-standing relationships and networks
- › Institutional flexibility
- › Existence of trustworthy interfaces (digital or on-site)
- › Vertical and horizontal knowledge providers
- › Individual-initiated engagement endeavours
- › An output-oriented aspect

As well as extracting key components, it is also important to address how the vulnerable regions should utilise them for building healthy environments. The centralised government approach emerges as a common denominator in the case study countries. However, the findings show that combating Covid-19 requires unique necessities at the local level rather than producing higher-level and generalised responses. It has been observed that actions taken by local people are more effective and accessible to individuals within the community. From this point of view, healthy city strategies can be summarised as:

- › Encouraging institutional/non-institutional organisations and communities
- › Enhancing communication between local communities and governments
- › Including a variety of public institutions into emergency action plans and defining responsibilities
- › Developing places for community engagement, such as public community houses/gardens to enhance relationships
- › Supporting transparent platforms that gather donors and beneficiaries that are under the control of civil organisations
- › Ensuring central authorities play the role of facilitator rather than only that of controller or executive actor
- › Developing a solution-oriented governance policy by identifying the needs of the vulnerable population in cooperation with local communities and NGOs
- › Harnessing the power of social media for access to transparent information

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