

Rethinking Human Security for a Post-Pandemic World: Implications and Lessons for Pakistan

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Abstract: Covid-19 is one of the seven kinds of coronaviruses discovered up to now. Animals and people are vulnerable to viral infection which may, among other organisms, infect the respiratory, gastrointestinal, hepatobiliary and central nervous systems. Covid-19, often referred to as SARS-CoV 2, has already spread across the world at an alarmingly fast pace, first to South Korea, Europe and the Middle East, then to the entire world. The virus initially emerged in Wuhan, China towards the end of 2019 and has since become a global pandemic worldwide. Covid-19, often referred to as SARS-CoV 2, has already spread across the world at an alarmingly fast pace, first to South Korea, Europe and the Middle East, then to the entire world. The virus initially emerged in Wuhan, China towards the end of 2019 and has since become a global pandemic worldwide. In fact, shortly after the first group of cases in Sindh, returning pilgrims from holy sites in Iran, on February 26, 2020, the health sector showed their limitations to the development of a comprehensive response strategy due to a lack of capacity and standardising protocols for the diagnosis of real time polymerase chain reaction (PCR). National and province public health agencies have been unable to get substantial population-based research information due to lack of resources and inadequate capacity at national and provincial levels. However, the Pakistani government reacted quickly despite resource limitations. Despite the limited involvement of the federal MOHSRC after the transfer of health services to the provinces in 2011, his multi-stakeholder approach was able to guide and assist COVID-19 national response. However, there were several aspects of the COVID-19 response that might have been better implemented in Pakistan and this article endeavors to explain factors that should Pakistan consider for future emergency situations.

Keywords: COVID-19, Non-Traditional Security Threats, Human Security, Pakistan

Introduction

Covid-19 is one of the seven kinds of coronaviruses discovered up to now.¹Animals and people are vulnerable to viral infection which may, among other organisms, infect the respiratory, gastrointestinal, hepatobiliary and central nervous systems.²The frequency of coronavirus outbreaks and related respiratory diseases such as SARS in 2002 and Middle East Respiratory Syndrome (MERS) has risen and is unlikely to decrease in the future.³

Covid-19, often referred to as SARS-CoV 2, has already spread across the world at an alarmingly fast pace, first to South Korea, Europe and the Middle East, then to the entire world. The virus initially emerged in Wuhan, China towards the end of 2019 and has since become a global pandemic worldwide.⁴In February 2020, the World Health Organization (WHO) recognised and named the illness as Covid-19.⁵Covid-19 will spread throughout all continents from January to December 2020. Therefore, Covid-19 was regarded a pandemic by the WHO in March 2020, with about 30 million cases verified globally by September 2020.⁶

Lawrence Freedman notes that, “[Covid-19] virulence and lethality meant that its effects were of a different order than the normal seasonal flu, to which it was often inappropriately compared.”⁷The intensity of the symptoms Covid-19 may range from moderate to severe. The most frequent signs and symptoms are fever, coughing and shortness of breath. The symptoms of Coronavirus infection include all fever and dry cough, as well as myalgia, headache and chills/rigors.⁸In addition, some Covid-19 users have experienced gastrointestinal problems like as nausea, vomiting and diarrhoea.⁹Covid-19 patients may be rapidly worsened and die as a consequence of multiple organ failure. The most frequent mode of SARS-CoV-2 transmission is person-to-person transmission, with the virus being known to transmit via aerosolised respiratory outlets.

Human Security Paradigm

The human security paradigm is ideal to assess the national and human security effects of Covid-19, as demonstrated in this study. According to Susan Peterson, human security theory expands security beyond the state to encompass basic human needs, such as health and nourishment.¹⁰The notion of human security concerns the well-being of people and organisations, as opposed to traditional concepts of national

¹Nehemya Friedman et al., “Human Coronavirus Infections in Israel: Epidemiology, Clinical Symptoms and Summer Seasonality of HCoV-HKU1,” *Viruses* 10, no. 10 (2018): 515.

² Yu Chen et al., “Emerging coronaviruses: Genome structure, replication, and pathogenesis,” *Journal of Medical Virology* 92, no. 4 (2020): 418.

³ Ibid.

⁴ Lawrence Freedman, “Strategy for a Pandemic: The UK and COVID-19,” *Survival* 62, no. 3 (2020): 25-76.

⁵ M Cevik et al., “COVID-19 pandemic-a focused review for clinicians,” *Clinical Microbiology and Infection* 26, no. 7 (2020): 842.

⁶ Ensheng Dong et al., “An interactive web-based dashboard to track COVID-19 in real time,” *Correspondence* 20, no. 5 (2020): 533-534.

⁷ Lawrence Freedman, “Strategy for a Pandemic: The UK and COVID-19,” p. 25.

⁸ Nehemya Friedman et al., “Human Coronavirus Infections in Israel: Epidemiology, Clinical Symptoms and Summer Seasonality of HCoV-HKU1,” p. 515.

⁹ Yael R Nobel et al., “Gastrointestinal Symptoms and Coronavirus Disease 2019: A Case-Control Study From the United States,” *Gastroenterology* 159, no. 1 (2020): 373-375.

¹⁰ Susan Peterson, “Epidemic disease and national security,” *Security Studies* 12, no. 2 (2002): 44.

security.¹¹ On the other hand, national security is frequently exclusively concerned with the state's existence. Moreover, human security argues that there are many more complex and varied dangers to the State's survival which need to be addressed in the debate on state security.¹² In other words, human security, including freedom from starvation and fear, is in striking contrast to the traditional concept of state security. Consequently, in combination with state security, human security must be utilised.¹³

All are regarded as existential risks to human welfare, including economic insecurity, political insecurity, access to food and healthcare, physical safety and environmental insecurity.¹⁴ The human security paradigm describes many major risks to national and international security, such as starvation, contamination, criminal activity, illness and domestic abuse, to mention a few.¹⁵ Human safety is based on the concept of providing benefits and security to people as a fundamental value.¹⁶ Human security in literature has proved to be a difficult topic, with a number of interpretations given. The unifying components include the shift from the group to the person as the key object of security and the idea that a danger to the quality of life of an individual should be seen as a challenge to traditional concepts of security.¹⁷

Public health protection is a crucial issue in the quest of human security. "This concept relates to the ability of the individual to sustain a quality of life that does not fall below their degree of safety," the definition says.¹⁸ The public health sector has focused on safety, whether limiting the spread of diseases or discovering treatments, for decades. The WHO has been setting the primary objectives of human health and safety since 1993 when it issued data on the global emergency status that indicate the need for increased vigilance against fatal illnesses targeting national states and rapidly spreading due to globalisation.¹⁹ As a result, pandemics have become a source of danger in scholarly and political circles. Securitization is raising a subject from being innocuous to the security realm in non-security conversations by presenting it as a security danger or risk.²⁰ This happened during the HIV/AIDS crisis when authorities increasingly claimed that the illness presented a risk for the life of communities, nations and military personnel unless national and international players took drastic steps to fight the disease epidemic. In view of the considerable rise in HIV/AIDS cases in the poor world and subsequent transfer of the illness to more advanced countries, this approach has been justified. In the mid to late 1990s, HIV/AIDS was placed on the agenda of the UN.²¹

Political scientists, on the other hand, were reluctant to respond, rejecting the HIV/AIDS epidemic as "too private, too biological, too micro-level and sociological, too much behavioural, and too

¹¹Zaryab Iqbal, "Health and Human Security: The Public Health Impact of Violent Conflict," *International Studies Quarterly* 50, no. 3 (2006): 631-649.

¹²Ibid.

¹³Ibid.

¹⁴Ibid.

¹⁵Edward Newman, "Human Security and Constructivism," *International Studies Perspectives* 2, no. 3 (2001): 241.

¹⁶Ibid., p. 243.

¹⁷Matt McDonald, "Human Security and the Construction of Security," *Global Society* 16, no. 3 (2002): 279.

¹⁸Zaryab Iqbal, "Health and Human Security: The Public Health Impact of Violent Conflict," p. 633.

¹⁹Melyana R Pugu and Mariana E Buiney, "Tuberculosis in Jayapura: Human Security Threat in International Relations Perspective," *Journal of Education and Vocational Research* 8, no. 1 (2017): 32.

²⁰Stefan Elbe, "Should HIV/AIDS Be Securitized? The Ethical Dilemmas of Linking HIV/AIDS and Security," *International Studies Quarterly* 50, no. 1 (2006): 126.

²¹Catherine Boone and Jake Batsell, "Politics and AIDS in Africa: research agendas in political science and international relations," *Africa Today* 48, no. 2 (2001): p. 3-33.

culturally.”²²Nevertheless, the political impact of the HIV/AIDS epidemic had a significant effect for the global world as countries clamoured for the lethality and tendency of the illness to spread across borders without regard for domestic borders.²³However, while HIV/AIDS is “one of the biggest dangers to public health and development” in Sub-Saharan Africa, the disease’s recognition as a national security concern took more than two decades.²⁴

In addition, the failure to react properly to pandemic threats is an ongoing trend. According to Stefan Elbe, “the core claim of the idea of health security is that insecurity is no longer only generated by other nations’ military and hostile political intents, but also now by the presence and fast transmission of illness inside and between people.”²⁵Sara Davies uses the most recent discoveries from emerging illnesses to put the pandemics into context. In her essay, she points out that, as of the 1980s, at least one new disease had been found annually, such as the advent of SARS and the avian influenza strain H5N1, which “has led to predictions that the globe might not escape a future pandemic of influenza between 2 and 12 million people.” This confluence has fueled calls for infectious illnesses as dangers to national security.²⁶When commenting on diseases like as SARS, E.M. Prescott notes: “Developed nations must recognise that they are only as safe as the worst system in the world of public health and as long as a passenger flies from there.”²⁷

Prices Smith’s book *Contagion and Chaos* promotes the idea that biological hazards are a major threat to human safety and should be handled at the highest level of government.²⁸On the other hand, its findings show a long-standing failure to handle these threats as they merit. Even though in the affected populations there was “significant levels of fear and psychological trauma”, impeding international trade and migration flows, as well as low to moderate economic damage to the economies of affected Pacific Rim countries (specially China and Canada), the policy adjustments that resulted were, in his judgement, “lackluster”.²⁹Moderate institutional adjustments were present at national level, but the authors said only “ephemeral alterations” were observed globally.³⁰The illness had the biggest worldwide impact on the International Health Regulations and the list of reportable diseases affected by the epidemic was updated.³¹While during the pandemic the WHO experienced a short rise in authority, it was only a transitory boost because sovereign countries have demonstrated no greater readiness to cooperate with “international health regimes.”³²

²² Ibid., p. 4.

²³ Catherine Boone and Jake Batsell, “Politics and AIDS in Africa: research agendas in political science and international relations.”

²⁴ Ibid.

²⁵ Stefan Elbe, “Pandemics on the Radar Screen: Health Security, Infectious Disease and the Medicalisation of Insecurity,” *Political Studies* 59, no. 4 (2011): 849.

²⁶ Sara E Davies, “Securitizing infectious disease,” *International Affairs* 84, no. 2 (2008): 298.

²⁷ E.M. Prescott, “ARS: A Warning,” *Survival* 45, no. 3 (2003): p. 213.

²⁸ Andrew T. Price-Smith, *Contagion and Chaos: Disease, Ecology, and National Security in the Era of Globalization* (London: The MIT Press, 2009).

²⁹ Ibid., p. 139.

³⁰ Ibid.

³¹ Andrew T. Price-Smith, *Contagion and Chaos: Disease, Ecology, and National Security in the Era of Globalization*, P. 156.

³² Ibid.

Price-Smith thinks that SRAS and its families, such as Covid-19, may evolve into a “global pandemic that might have caused much more loss of life and economic destruction,” threatening domestic and international security.³³He believes that in contrast to other illnesses like HIV, malaria and TB, the larger domestic response to SARS mainly resulted from many unique characteristics of SARS that were not present in the other infections examined. SARS, in particular, was a single-kind illness with a high degree of virulence and communicability that confronted policymakers at all levels with an imminent and inevitable socioeconomic catastrophe and acted as an “exogenous shock” which jeopardised global financial interests.³⁴Covid-19, a virus that has much of the same functionality as SARS, has demonstrated that the theory of Price-claim Smith in each of the aforementioned domains is accurate.

After the 2005 SARS outbreak, Sara Davies is investigating the modifications to and implications of the International Health Regulations (IHR).³⁵The main aim of these changes to the regulations was to link health and safety in order to emphasise how essential the laws are to be obeyed and “to help maintain the political will required to attain basic capabilities” or to carry out baseline readiness assessments by July 2012.³⁶According to the experts, the achievement of sufficient pandemic preparation needs strong national laws and policies, efficient coordination and national communications coordination. The monitoring, reaction, preparedness, risk communication, as well as people resources and laboratories were other significant variables. Although the very high percentage of government failure to fulfil these criteria (110 out of 195) raised concerns in 2013, it seems that these governments did not take preparedness seriously or faced tremendous challenges in establishing the minimal capacity.³⁷

Davies discovered that these 110 nations have substantial difficulty in acquiring these basic abilities. In many of the countries, there seemed to be no political obstacles to upgrading health systems but tried to reconstruct health systems that were in many instances fragmented, underfunded, and poorly staffed. Although this is a significant concern, it is essential to highlight that failings in the ability of one state in a globalised world may be a catastrophe for the whole global system.³⁸This was confirmed extensively by COVID-19. The author deals with this issue and provides three options to improve pandemic preparation. The first method enables us to increase knowledge of the connection between commitments to health policies and security, thus increasing the importance of safety and generating better results. Secondly, it is vital to develop accessible and equitable universal national healthcare systems, since these systems are widely recognised as crucial to a successful pandemic prevention and response operations. Thirdly, regulatory compliance must be managed from a regional point of view, while taking regional contexts and norms into account. These efforts must be supported by global organisations such as the United Nations Development Program, the UN Peacebuilding Commission and others.³⁹

³³ Ibid., p. 139.

³⁴ Ibid., p. 156.

³⁵ Sara E. Davies, “National security and pandemics,” *UN Chronicles* 50, no. 2 (2013): 20-24.

³⁶ Ibid., p. 21.

³⁷ Sara E. Davies, “National security and pandemics.”

³⁸ Ibid.

³⁹ Ibid., p. 24.

The issue of Covid-19, despite previous international experience with global diseases, has deviated from the normal approach of addressing “issues without passports.”⁴⁰Countries are often dependent on international organisations, such the WHO, to oversee a global response, but these organisations have been severely affected. As different perspectives emerged among specialists, critics and indignation were focused by a variety of administrations, while others emphasised narrow and short-sighted objectives.⁴¹Tana Johnson believes the troubling first several months of the Covid problem serve to illustrate how the world operates in the absence of strong leadership to overcome opposition to international institutions, typically motivated by national sovereignty or elitism. This unusual crisis reaction should raise warning lights in everyone’s thoughts. Pandemic reactions, such as HIV/AIDS and SARS, have historically sharply alleviated the vulnerabilities of a complex globalised system.⁴²In the early months of the worldwide reaction to Covid-19, such differences may be much stronger.

A notable novelty of this pandemic is “the worldwide anthropological experience of fear and death within a very short period,” according to Carlos Milani, who sees COVID-19 as a threat to human security. Covid-19 has become a major safety issue with existential consequences.⁴³“The risk has directly, tangibly and visibly affected individuals,” the researcher said. It has impacted everyone in [the] [region], families and many homes.⁴⁴Human safety refers to the notion that a person must always be safeguarded from danger.

Case of Pakistan

Covid-19 reappeared in Pakistan in February 2020 and was not unexpected considering the closeness of the nation with China and the Islamic Republic of Iran, which are respectively the causes of the pandemic, and the original outbreak outside Europe. The focus has been placed on pilgrims returning by road from holy places in the Islamic Republic of Iran after a period of intensive research into possible instances amongst Chinese visitors coming in the country. In contrast to the typical airport entry, the building of forthcoming screening and quarantine facilities at the Iranian border crossing in the distant Taftan region of Baluchistan Province was required. While many rural regions in Baluchistan and in southern Khyber Pakhtunkhwa Province have reported much less cases and insignificantly recorded deaths than urban districts, the disease spreads rapidly throughout all urban areas and districts in Pakistan.

Modus Operandi

In fact, shortly after the first group of cases in Sindh, returning pilgrims from holy sites in Iran, on February 26, 2020, the health sector showed their limitations to the development of a comprehensive response strategy due to a lack of capacity and standardising protocols for the diagnosis of real time polymerase chain

⁴⁰Tana Johnson, “Ordinary Patterns in an Extraordinary Crisis: How International Relations Makes Sense of the COVID-19 Pandemic,” *International Organization* 74, no. S1 (2020): 1.

⁴¹Tana Johnson, “Ordinary Patterns in an Extraordinary Crisis: How International Relations Makes Sense of the COVID-19 Pandemic,” p. 148-168.

⁴²Solomon R. Benatar, “The HIV/AIDS Pandemic: A Sign of Instability in a Complex Global System,” *The Journal of Medicine and Philosophy* 27, no. 2 (2202): 163-177.

⁴³Carlos R. S. Milani, “Covid-19 between Global Human Security and Ramping Authoritarian Nationalisms,” *Geopolitica(s)* 11 (2020): 144.

⁴⁴ Ibid.

reaction (PCR). Many of them were set up, including a mobile testing lab in rural Taftan and quarantine facilities.

The initial response, which focused primarily on the Federal Ministry for National Health Services, Regulation and Coordination (MOHSRC), had to be fully refocused and updated due to the spread of the pandemic and its associated issues into non-healthy sectors. Early measures were made with the creation of the Prime Minister's National Coordinating Council (NCC) on 13 March 2020, with members from all major ministries, including the health. The National Command and Operations Center (NCOC) was rapidly established on 27 March 2020. The National Coordinating Committee (NCC) has been the collaborative implementing force of the NCC across several provinces, jurisdictions and other federal government organisations.⁴⁵In addition, despite the limited resources, the incorporation of the National Disaster Management Authority (NDMA) for emergency purchase and deployment of supplies by the Federal and Provincial Governments was a major step forward.

Nothing guided national response in the early phases of the pandemic save the WHO's early suggestions and the responses from the epidemic nations (January to February 2020). For example, despite the Chinese New Year's arrival, the Chinese government enforced a close lockdown to limit its people's mobility following an early stage characterised by uncertainty and inadequate information.⁴⁶When the initial responses from European and North American countries rapidly changed, Pakistani government implemented a series of early non-pharmacological (NPIs) interventions, including the closure of educational institutions; prohibitions on large meetings such as wedding ceremonies; and the closure of non-essential companies. When Karachi came under complete lockup on 23 March 2020, other major metropolitan regions throughout Pakistan were followed a day later. Due to the religious services and traditional practises scheduled throughout the month, they faced many difficulties at various stages of the month. Regardless of the other factors, diligent execution of travel restrictions and closings had an important role in flattening the incidence curve and in the preparation of the health care system for the expected influx of patients.

According to the WHO, molecular diagnostics capability and equipment were inadequate in Pakistan's public sector laboratories. By the end of February, under the supervision of Pakistan's National Institute of Health, the Federally Governing had created a significant number of testing locations from four public laboratory tests with a daily capacity up to 400 PCR tests (NIH). Federal and provincial governments have created a number of expert committees to address the Covid response as well as suggestions and restrictions. Such supervision committees were primarily focused on the creation of standard operating procedures (SOPs) for case identification (including test systems and staff training), construction of infection control recommendations in various settings and clinical treatment of Covid-19 patients. Efforts at the federal level have been coordinated by the creation of a small think-tank aiming to simplify the purchase, import and distribution of laboratory test kits, laboratory training and the supply of personal protection equipment and equipment (PPE). However, despite the significant geographical variation in test rates, by mid-June the total number of cases confirmed each day rose to about 6000-7000 and then

⁴⁵ Rana Jawad Asghar, "COVID-19: Before and After NCOC," *Daily Times*, July 06, 2020.

⁴⁶ "Coronavirus disease 2019 (COVID-19) Situational Report - 44," World Health Organization, March 04, 2020, https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200304-sitrep-44-covid-19.pdf?sfvrsn=783b4c9d_2, (accessed on March 03, 2021).

decreased to the current average of 500. According to a standardised data system from more than 500 hospitals throughout the country, the number of fatalities associated with Covid 19 decreased steadily and gradually.

Policy Guidance

National and province public health agencies have been unable to get substantial population-based research information due to lack of resources and inadequate capacity at national and provincial levels. Covid-19 federal and provincial surveillance committees first concentrated on logistics and only began investment in data systems by the end of March 2020. They reported directly to the NCOC, and published situational evaluations on a public MOHSRC information site Covid-19 on a daily basis.⁴⁷ This connection became important for Internet trend analysis and monitoring.

The systematic flow of test data from an increasing number of laboratories throughout the provinces as well as from the government, industry and non-profit industries, to mention a few, was crucial. The existing reporting network and polio-surveillance database allowed the procedure to speed, and technological interfaces to guarantee that data were sent promptly and correctly. It became apparent within a short time that the current medical systems infrastructure – particularly in major provincial capitals – was adequate to accommodate the expected increase in critically sick patients. As a result of the early response plan, it was one of its primary aims to flatten the curve of an epidemiological illness to provide adequate time to improve system capacity. Only a few of the country's about 2000 critical care beds were equipped at the time of the outbreak to care for Covid's victims. A lot of healthcare facilities have to be renovated and modernised. NCOC and NDMA were helpful in accelerating procurement and local manufacturing of critical products, such as personal protective equipment and hand sanitizers. By June 2020, Pakistan would be largely self-sufficient, due to the commencement of local manufacture of fans in terms of supply chain and logistics.

Decision-Making Through Data

In addition to providing a data synthesis system and launching the Pak Nigehban App which tracked and tracked localised resources including the availability of ICU beds and ventilators, the Digital Pakistan initiative helped to build a centralised, accurate data repository, essential for evidence-driven healthcare decision-making.⁴⁸

Although three distinct prediction models were utilised by the administration to make choices over the short and medium term, none was made public. Alternative models, including those demonstrating dynamic disease projection patterns and duration, were developed by teams at the University of Toronto,⁴⁹ Imperial College London,⁵⁰ and the Institute of Health Metrics & Evaluation in Seattle,⁵¹ and their

⁴⁷ "Covid-19 Dashboard," Government of Pakistan, <https://covid.gov.pk/stats/pakistan>, (accessed on May 12, 2021).

⁴⁸ Ammar Ahmed, "NCOC launches an app named 'Pak Nigehbaan' to track the availability of ventilators," *Mashable Pakistan*, June 05, 2020.

⁴⁹ Zulfiqar A Bhutta et al., "Evaluation of effects of public health interventions on COVID-19 transmission for Pakistan: A mathematical simulation study," *medRxiv* (May 05, 2020).

⁵⁰ "Situation Report for COVID-19: Pakistan, 2021-05-22," MRC Centre for Global Infectious Disease Analysis, Imperial College London, May 22, 2021, <https://mrc-ide.github.io/global-lmic-reports/PAK/>, (accessed on May 25, 2021).

forecasted trends were dissimilar. Despite the lack of high-end data collecting systems, modelling exercises contributed to the planning and decision-making at both federal and provincial levels. However, the demand and supply of such information showed a learning curve. One cannot determine if any of these models have an effect on policy because none of them have been discussed and evaluated in public by the national scientific community before they are published. In view of limited trials and inadequate data on response systems, the majority of these predictions were treated with scepticism or were completely overlooked, leading to real-time admission and death reporting. Due to widespread scepticism about the exact direction and seriousness of the pandemic in Pakistan at various stages and widespread disagreements among different sections of society, especially the electronic and print media, as well as medical organisations, major political parties and scholars, a national consensus is reached on approaches and solutions. A national conference and engagement with civil society might have prevented much acrimony during reflection and led to a non-partisan and unified agenda.⁵²

Pakistan's Successes

However, the Pakistani government reacted quickly despite resource limitations. Despite the limited involvement of the federal MOHSRC after the transfer of health services to the provinces in 2011, his multi-stakeholder approach was able to guide and assist COVID-19 national response. It played a significant role in setting up the NCOC.⁵³ The National Health Institute (NIH) assumed responsibility for educating technicians, the purchase of diagnostic equipment and capacity development across all of Pakistan. Daily test capacity in all public sector test sites was raised to 50,000 tests per day by August 2020 from 2,000 tests per day, with the aim of reaching this target by 2025. The NCOC managing logistics, delivery and procurement problems via the NDMA in response to a national emergency, which included providing essential personal protective equipment, installing oxygen supply systems and establishing COVID-19 centres throughout the country. Pakistan experienced a significant human resources deficit due to the pandemic, with only 9500 certified experts in critical care at the time of the epidemic. Virtual training and skills development programmes have been created for personnel in collaboration with Aga Khan University, the Health Services Academy, and the National Institutes of Health, with more than 50 000 staff members receiving training up to now.

It was a tremendous success to create a national and provincial data reporting system with the capacity to provide district-level estimates. The fact that this information was made public in real time was a break from many other administrations in South Asia. The creation of a data flow system allowed for response planning at both the federal and provincial levels. Intelligent lockdowns, a novel technique that combines

⁵¹ "New IHME COVID-19 Forecasts Predict More than 40,000 Deaths in Pakistan by October 1," IHME, June 26, 2020, <http://www.healthdata.org/news-release/new-ihme-covid-19-forecasts-predict-more-40000-deaths-pakistan-october-1#:~:text=SEATTLE%20%E2%80%93%20In%20its%20first%20projections,COVID%2D19%20by%20October%201,> (April 22, 2021).

⁵² Irfan Mahar, "Polarization between Pakistan's Federal and Sindh Governments on COVID-19," *Modern Diplomacy*, April 18, 2020, <https://moderndiplomacy.eu/2020/04/18/polarization-between-pakistans-federal-and-sindh-governments-on-covid-19/>, (accessed on April 02, 2021).

⁵³ Sania Nishtar et al., "Health reform in Pakistan: a call to action," *Lancet* 381, no. 9885 (2013): 2291-7.

touch monitoring with hotspot and local reaction, have given the security system additional boost.⁵⁴ There have also been deliberate efforts to educate the general public about the illness and to emphasise the necessity for action. A variety of social media efforts have been undertaken at various levels of government and business enterprises to transmit short messages about Covid-19 techniques of prevention before connecting all telephone calls as a public service.

In its attempts to encourage investment in the private sector, the State Bank of Pakistan Refinancing Facility to Fight Covid-19 (SBP-RFCC) offered loans at a rate of three percent to hospitals and medical institutions. The money should be utilised for expenditures connected to Covid such as expansion and upgrading of the facility, as well as the buy-out of equipment such as fans and enhanced personal protection equipment. Over 6 billion Pakistani Rupees (PKR) were provided to 35 hospitals, resulting in the building of 13 totally new facilities, 1112 more beds and the acquisition of over 350 patient fans.

Pakistan also responded angrily to the collateral damage caused by the unexpected closure, including losses of revenue for the country's daily wage labourers. The introduction of cash distribution via an established social security net was a significant step - the Ehsaas Program (which means percipience). The project, which is aimed at female household leaders, gets paid PKR 12,000 (USD 75), according to its website, for each of its 12 million prospective beneficiaries who face significant financial problems and food insecurity.⁵⁵ Rapid adoption of these response measures, along with significant private philanthropy and charity support, were the primary reasons for Pakistan's failure to suffer the catastrophic migrant workers' and slum-holders' flight from megacities elsewhere.

Only time will tell the effect on education systems and learning chances of the large network of public schools that will be forced to shut by the end of March. However, even if private schools and universities in Pakistan were permitted to begin providing online courses, over 200 000 primary, middle, and secondary schools were refused authorization in that nation, which educates over 25 million pupils. On 13 April 2020, TeleSchool, a television channel for education, was created by the federal government.

The Prime Minister's involvement was important. In the earlier stages of the crisis, when the backbone of the response was constraints and lockouts, he launched the financial aid programme, and then took a risky decision for the economic re-opening, shifting to a policy of contact tracking and intelligent lock-downs, criticised by many for being an unnecessary gamble. Because to their courage, they might avoid the terrible effects of an unexpected and protracted economic closure in Pakistan. The same decision was made after considerable debate and discussion to reopen schools and educational institutions by 15 September 2020. The NCOC and the political leadership have based their choices on thorough analyses of risk and reward.

Where Did Pakistan Failed?

⁵⁴Danny Ibarra-Vega, "Lockdown, one, two, none, or smart. Modeling containing covid-19 infection. A conceptual model," *Science of the Total Environment* 730 (2020): 138917.

⁵⁵ Sania Nishtar, "Ehsaas Emergency Cash: A digital solution to protect the vulnerable in Pakistan during the COVID-19 crisis," Government of Pakistan, July 20, 2020, <https://pass.gov.pk/Document/Downloads/EhsaasEmergencyCashReportJuly212020.pdf>, (accessed on January 22, 2021).

There were several aspects of the COVID-19 response that might have been better implemented in Pakistan even with the aforementioned accomplishments.⁵⁶ The overall number of tests conducted at population level remained a fraction of the planned level, with significant variations throughout the country, despite the program's efforts. In Islamabad Capital Territories, a greater number of tests have been carried out than in the provinces, especially in Baluchistan (5955 tests per million) and Khyber Pakhtunkhwa (7271 tests per million people), the latter seeming to have fallen more over the last several weeks. By 17 February 2021 about 12,400 verified COVID-19 fatalities in Pakistan (with five hundred and sixty five thousand confirmed cases) were reported; however, the degree of testing is likely to underestimate the actual problem. It appears, however, improbable that a significant excess population mortality has been undetected, particularly since funerals and the number of burials accessible across the country is restricted. Similarly, it was studied in larger towns, where the number of fatalities in comparable times did not rise.

Conflicting messages fueled needless acrimony and dissatisfaction, as well as polarisation of political parties' viewpoints, with diverse opinions on the nature of the reaction and the severity of the lockdown. Several reasons led to civil society uncertainty, including a significant physical distance breakdown after Ramadan (end of May 2020), the reopening of court orders and an anticipated increase of case numbers across the board in June.⁵⁷

Many municipal governments have locked down Friday community prayers owing to the lack of agreement on limitations and precautions that should be imposed on Fridays for community prayer among religious experts. Due to this discontent, recent Eid-ul-Adha celebrations and religious meetings during Moharram did not lead to a widespread breakdown of order or congestion. Rather, they were orderly and calm. Communication methods and community involvement in preventative measures like as face masks and physical distance are, however, still a problem, along with the stigmatisation of some houses found via smart-locking. This jeopardises the interaction, reporting and therefore monitoring of hotspots or clusters. Poor compliance with masks and physical division and early celebration of COVID-19 "success," as witnessed during National Independence day festivities on 14 August, or in a number of schools following the reopening ceremony on 15 September 2020, are major risks for COVID-19 reemergence.

Future Framework

According to numerous studies, Pakistan appeared to have "dressed the bullet" and minimised the expected effects of Covid-19, as opposed to many other nations and especially its neighbours. As a consequence, the total number of diseases and deaths is much lower than in the eastern and western neighbours, but as a result of mitigating efforts it remains within the expected range until April 2020.⁵⁸ In addition to the role the government has previously acknowledged in responding to the issue, a number of variables have been identified. The population is young (almost half are under 20), cultural norms limit social networking for families beyond their immediate family, and the virus may be inherently safe from prior exposure to other

⁵⁶ "Pakistan Launches Teleschool for E-Learning," *Newsweek*, April 14, 2020.

⁵⁷ Madiha Afzal, "With a mix of pandemic denialism and exceptionalism, Pakistan makes a cynical bet on the coronavirus," Brookings, June 05, 2020, <https://www.brookings.edu/blog/order-from-chaos/2020/06/05/with-a-mix-of-pandemic-denialism-and-exceptionalism-pakistan-makes-a-cynical-bet-on-the-coronavirus/>, (accessed on September 19, 2020).

⁵⁸ Zulfiqar A Bhutta et al., "Evaluation of effects of public health interventions on COVID-19 transmission for Pakistan: A mathematical simulation study."

coronaviruses.⁵⁹ According to two recent community-based serological investigations in Islamabad and Karachi, between 14% and 28% of the population had SRAS-CoV-2 virus antibodies (AI and ZAB, personal communication 2020). As a consequence, rigorous commitment to preventative measures is necessary owing to the unpredictability of the virus and its expected reappearance later this year. There may be fast increase and spread of disease when there is a low circulation and disease load, as was observed in other more developed nations, such as the United States of America and Australia. In the COVID-19 era, objective analysis and identification of potential triggerpoints for the imposition/removal of NPIs may be needed as new cases continue to grow and fall in the population, with new cases continuing to increase and drop in the population. COVID-19 has been followed and monitored by the country's polio surveillance programme in Pakistan. Instead, a comprehensive monitoring and warning system for diseases must be established.

Pakistan has reopened a few of its schools to address the growing gap in performance.⁶⁰ This reintroduction of 53.4 million students and staff into group educational activities must be done cautiously and methodically, with possible improvements to decrease exposure, such as shift arrangements for classrooms and nearly universal usage of face masks and hand cleanliness. Primary healthcare services for women, children, and the elderly have been severely disrupted. According to most reports, vaccination rates among vulnerable children plummeted, as did other preventative interventions such as nutritional support programmes. These are being reintroduced in a timely and safe manner. Pakistan successfully re-launched its polio immunisation programme in late July 2020, with no complaints of health hazards or COVID-19 exposure among vaccinators. The primary care programme, which includes community-based woman health workers, is resuming its work in community education and identifying at-risk families, as well as contributing to regular monitoring and nutritional assistance programmes.⁶¹

A period of fatigue is followed by the "adrenaline rush" during an emergency reaction, with the Covid-19 response no exception. Over six months have passed since front-line employees, supervisors and support staff worked in an emergency and fighting fatigue is starting to develop. Although health professionals have undergone disproportionate exposure, sickness and death in Pakistan, morale remains strong.

Everyone must learn how to deal with the virus and its unexpected nature, although this is not always feasible. As part of this process, the economy is gradually reopened and people are brought into the new normal; the latter may imply that the virus may live with periodic upsurges for many years. The Covid 19 vaccination pipeline is overwhelming, with a number of issues affecting its eventual fair distribution and availability in low- and mid-income nations, aside from worries about efficacy (LMICs). Cash and Patel emphasise the need of local reactions and solutions appropriate for resource-free low- and middle-income nations. Pakistan is a country with a mix of global orientation and pragmatic local adjustment and good outcomes in a national public health response. The government may have taken risks in reacting to that crisis, but so clearly shows that it was effective and that the response can serve as a model for others to

⁵⁹ Domenico Birra et al., "COVID 19: a clue from innate immunity," *Immunologic Research* 63, no. 3 (2020): 161-8.

⁶⁰ "COVID-19: Are children able to continue learning during school closures?" UNICEF, August 2020, <https://data.unicef.org/resources/remote-learning-reachability-factsheet/>, (accessed on November 3, 2020).

⁶¹ David E Phillips et al., "Learning from Exemplars in Global Health: a road map for mitigating indirect effects of COVID-19 on maternal and child health," *BMJ Global Health* 5, no. 7 (2020).

imitate with appropriate follow-up and care.⁶² It is an amazing achievement to establish the current stable position for a country with 215 million people for less than \$0.5 billion, but no chance has been accomplished.⁶³

Implications and Lessons for Pakistan

Although a high degree of political commitment has been demonstrated by Pakistani governments, the ongoing COVID-19 pandemic has exposed major obstacles and vulnerabilities in emergency and health systems throughout the nation, especially in regard to the handling of infectious disease outbreaks. Three areas must be prioritised as soon as possible: federal and provincial coordination of responses, centralised procurement of personal protective equipment (PPE) and medicines such as fans and respirators, the media's responsible role in preventing public panic, the protection of our frontal workers and health care workers. The response to COVID-19 may worsen the health system of the nation, which would have a catastrophic impact on the economy of the country.

The highest level of National Response Management Protocols should be resumed to ensure that the whole government and society are involved, to prevent COVID-19 with non-pharmaceutical public health measures. To attain the same outcomes as South Korea, the three-pronged trace testing, treatment and surveillance approach must be implemented aggressively. Health education and knowledge of the seriousness of COVID-19 and their participation in the prevention of its spread among the general population are key objectives. In addition to testing for the virus on existing surveillance systems (e.g. influenza-like disease systems and Severe Acute Respiratory Illness-SARI) to detect transmission chains, surveillance needs to be expanded to include patients who have atypical pneumonia, screening of some patients with upper respiratory illnesses and / or recent exposure.

- Travel is the world's leading factor in the transmission of infectious illnesses. Reduced traffic frequency, such as aircraft, trains, road restriction and community awareness may prove to be a successful approach for containment. The use of voluntary home quarantine and home insulation helps to reduce the pressure on the medical system for emergencies. The government must enhance international mechanisms to efficiently manage, coordinate and deliver resources in this emergency situation.
- The government must promptly adopt the following five steps. The first is a national curfew that minimises unwanted social interaction. Secondly, the priority and war-footing increase of testing and associated healthcare capability is important for fighting the illness. In a third case, buildings may be transformed to isolating facilities, field hospitals and quarantine facilities. Fourthly, to ensure that food, medicine and logistical supply chains are as smooth and uniform as feasible. Fifthly, the development of programmes for social protection, like the BISP, aimed at safeguarding the most vulnerable.
- Flatten the curve via early containment, such as social distance – the longer we can postpone cases, the better the healthcare system operates, which in the long run will result in lower mortality rates.

⁶² Richard Cash and Vikram Patel, "Has COVID-19 subverted global health?" *Lancet* 395, no. 10238 (2020): 1687-8.

⁶³ "Pakistan Preparedness and Response Plan Covid-19," Government of Pakistan, <https://reliefweb.int/sites/reliefweb.int/files/resources/PAKISTAN-Preparedness-and-Response-Plan-PPRP-COVID-19.pdf>, (accessed on March 11, 2021).

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In the past, for example during the Spanish influenza pandemic in 1918, social isolation has shown to be an effective approach to reduce morbidity and mortality.

- Priority Research on diagnoses, vaccinations and treatments is being done to stop the spread of the virus and to improve therapy in the most efficient way.

The COVID-19 outbreak is a test case for the entire world and for Pakistan. We have to learn from this pandemic and take real measures to improve the planning of preparations for future outbreaks of infectious diseases. In future, technology and artificial intelligence can be better used in the prediction and modelling of disease epidemics. It is necessary to expand the mandate for preparatory planning, continuous monitoring, periodic scientific warnings and response to the outbreaks of infectious diseases, and this should be backed by a substantial increase in funding.