

13th Annual Report 2020

THE STATE OF THE ECONOMY Coronavirus and its Impact on the World and Pakistan



The Shahid Javed Burki Institute of Public Policy at NetSol

BIPP 13th Annual Report 2020

**The State of the Economy
Coronavirus and its Impact
on the World and Pakistan**

**The Shahid Javed Burki
Institute of Public Policy at NetSol**

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The Shahid Javed Burki Institute of Public Policy at NetSol

The institute aims at synergizing the research, education, think tank and knowledge management functions to become a Centre of Excellence in Public Policy. BIPP's mission is to improve the welfare of the citizenry with particular emphasis on identifying policy measures that will lead to inclusive, people-centered growth with equity, political stability and sustainable development besides fully harnessing the potential for regional and global integration of the country. BIPP's areas of interest are social, economic, environmental and political development and security, trade and foreign policy.

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Foreword

What is Going Wrong with the World?

I am writing the introduction to the 2020 annual report issued by the institution that carries my name three months before the end of the year. As has been the case in the previous years, this time also our focus has been on internal developments in Pakistan. In the past, we have investigated the cost of energy shortages for the Pakistani economy; how terrorist activities were affecting the pace of investment and hence future economic growth; how the massive investments made and promised by China within the framework of a program the two countries call the China Pakistan Economic Corridor (CPEC) will affect Pakistan's economic growth and development; and why the districts in the south of the province of Punjab had fallen behind other parts of the province. In some to the preceding years we analyzed the impact on the economy of major changes in public policy such the adoption of the 18th Amendment. This time our focus is on the consequences of the arrival of the coronavirus in Pakistan and how it affected the country's economy.

This was a difficult year not so much for Pakistan but for the world in which we live. The question posed in the introduction to the report uses the present rather than the past tense. The changes that I describe in this space are still happening and it is hard to predict where they will take the world. "There are," Lenin supposedly said, "decades where nothing happens; and there are weeks when decades happen." John Micklethwait and Adrian Woolridge cite this supposed Lenin saying in their new book, *The Wake-Up Call: Why the Pandemic has exposed the weakness of the West and How to Fix It.* Conservative columnist George F. Will picks up this theme in his column on October 4, 2020 contributed to *The Washington Post*. "Such is the speed of COVID-19, in eight months it has reversed a decade

of global gains against poverty," he wrote. "In the United States, it has produced the worst monthly unemployment figures since the Great Depression and in Britain probably the steepest decline annual in output since 1706. Such social carnage has been abetted by inadequate governmental planning before and responses during the pandemic. This has been especially so in the United States and Britain when compared with countries in Asia."

Early in the year the news began to come out of China that the authorities there had detected a novel coronavirus in Wuhan, a large city on the right bank of the Yangtze River in central China. The modifier "novel" in the name of the virus was the signal that this particular form was different from the one that brings flu every year to the world and different also from those that brought two earlier epidemics -- the Severe Acute Respiratory Syndrome, the SARS and the Middle East Respiratory Syndrome, the MERS. Although the two epidemics killed hundreds of people around the globe, they were not severe enough to be called pandemics. The Wuhan disease was given that description and the name "COVID-19" by the World Health Organization (WHO). I have in some of the early chapters of this report described in some detail how this particular virus may have emerged and how it spread to many parts of the world, including Pakistan.

There are a number of features of COVID-19 that are different from the viruses belonging to the same family that came before. As we are concluding the writing of this report it is not clear when will the impact of the disease begin to turn the corner. The number of victims it has claimed continues to increase. By October 4, the number of cases in the world had increased to 35,231,182. This toll was

64,900 more than the day before. The number of deaths from the disease had increased by 2,462 from 1,035,452 to 1,037,914. The end was not in sight.

The leaders of the countries that occupy an important position in the global structure can have considerable influence on the way the world moves. This is certainly the case for most of those who have led the United States in the post-Second World War era. Leaders such as Franklin Roosevelt, Dwight Eisenhower, John Kennedy, Bill Clinton and Barack Obama guided the world to move in the right direction. That can not be said about George W. Bush and certainly about the country's 45th president, Donald J. Trump. Hundreds of people have tried to understand what motivates Trump. "As The Washington Post's nonfiction book critic, I've read well over 150 works covering Donald Trump and the major debates of his presidency, and that's just a small fraction of the canon," wrote Carlos Lozada in a on overview of the Trump literature for his newspaper. What has he read as being covered? "Dissections of heartland voters. Manifestoes of political resistance. Works on gender and identity. Memoirs of race and protest. Reports of White House chaos. Studies on the institution of presidency. Predictions about the fate of American democracy. Just as Trump's election shocked the country's political establishment, it jolted America's intellectual class. Writers, thinkers, activists, academics and journalists have responded as they know best: with lots and lots of books. One of the ironies of our time is that a man who rarely reads has inspired an onslaught of book-length writing about his presidency."

The main body of this report was done when

COVID-19 claimed the United States president Donald J. Trump as a victim. On Friday October 2, Marine One helicopter that ferries the American president over short distances flew Trump to Walter Reed Hospital located in Bethesda, Maryland about a dozen miles from the White House. This is where the U.S. presidents go when they need serious medical attention. This is where President Reagan was taken when he was shot by a would-be assassin in 1981.

While working on this report, we began to appreciate how deeply Pakistan is affected by developments beyond its borders over which the country has no control. This was almost always the case but the external influences were mostly because of developments near the country's borders in India and Afghanistan. Some who wrote about policymaking in Pakistan turned out works that were generally described as India-centric. Now it is more than India that affects policymaking in Islamabad. Some of what registers on those who hold the reins of power in Islamabad happens in distant places: in the United States; in the United States' dealings with China, Europe and the Middle East; in the growing conflict among the Arab and non-Arab nations that together make up the Middle East; and of the way the United States President Donald Trump is dealing with the world. For this reason while we were engaged in writing the 2020 report some of those who work in the Burki Institute have begun to turn their attention to understanding the sharp changes that are taking place in the world. We will bring our thinking together in the report we will launch in 2021.



Shahid Javed Burki

October 5, 2020

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Mr. Shahid Najam

Mr. Najam is the Vice Chairman of BIPP. He has four Masters including LLM and MSc. Public Policy from London School of Economics, UK and MSc. Rural Development from Wye College London. He has more than 40 years of experience with Government of Pakistan and the UN System in policy and strategy formulation; development planning and programming; and implementation of large scale programmes for sustainable development. He joined the Pakistan Administrative Services in 1974 and held important assignments including Commissioner Lahore Division (1999-2001), the first Chief Operating Officer, of the Punjab Board of Investment and Trade (2009). Mr. Najam held senior positions with the UN System as FAO Representative, Iran (2007-2009) and Resident Coordinator/Resident Representative of the UN system in Turkey (2009-2013).



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Mr Tariq Husain is a former staff member of the World Bank Group where he worked for thirty-five years in senior positions. His last assignment was as Director of the World Bank's Learning and Leadership Centre. He served as Director of the World Bank Resident Mission in Nigeria; and as Chief Economist of the Indus Basin Perspective Planning Project for the Government of Pakistan. After taking early retirement from the Bank in 1999 Mr. Husain worked on Pakistan's development issues—poverty; income distribution; sectoral development; public sector reforms. He is Chairman of the Board of Trustees of the Washington based Karachi University Alumni Association which has a substantial scholarship program for Karachi University and its allied institutions. He has published many books and research papers on Science and Sustainability.



Dr. Daud Ahmad

Dr. Daud Ahmad has to his credit PhD in Civil Engineering (Hydraulics) from Colorado State University, USA. He is a senior development professional and practitioner who worked for nearly 35 years with the World Bank on large scale international development projects in different countries, mostly in Asia. Since his retirement from World Bank in 2000, Dr. Ahmad has been working as an independent International Development Consultant. He is also a member of BIPP's Board of Directors.



Dr. Farrukh Iqbal

Dr. Iqbal has more than thirty years of Research and Management experience in the World Bank across a diverse range of countries and sectors. He has worked on Korea, Philippines, Indonesia, China, Iran, Egypt, and the Gulf Cooperation Council (GCC) involving various aspects of economic development including growth, poverty, small and medium enterprises, trade and foreign investment, health insurance, local government development, and political economy issues. He has been the Executive Director of the Institute of Business Administration, Karachi since August 2016. He holds a Bachelor's degree from Harvard University and a PhD in Economics from Yale University, USA.



Dr. Mahmood Ahmad

Dr. Ahmad is internationally renowned expert on agriculture and water policy. He did his PhD from the University of Massachusetts in Resource Economics (1979). He carries an experience of around 40 years, including 24 years with the Food and Agriculture Organization of the United Nations, working in more than 15 countries. He led the formulation of FAO programmes on agriculture and water policy for the Near East countries; supported member countries in preparing agriculture strategies under water scarce conditions; spearheaded the World Bank assisted Regional Initiative on Water Scarcity of the FAO Regional Office in Cairo; and assisted in formulating the ECO national and regional food security policies and strategies. He is a member of BIPP's Advisory Council.



Mr. Asad Ejaz Butt

Asad Ejaz Butt is a development economist trained in Canada. His career started with ICF International where he modelled energy efficiency products for ICF's demand-side management programs. He has provided energy consultancy as well as advisory services to a number of multilateral and bilateral donors and funding agencies including the UN, USAID and state-owned utilities in the US. He moved to Pakistan to join the BIPP as a Research Fellow, to later become its Director, Research and Coordination. In the last two years, most of his work has revolved around mainstreaming and localizing Sustainable Development Goals (SDGs) within the policy and institutional context of Pakistan. In the process he has worked with UNDP Pakistan and with the German development agency, GIZ for private sector engagement in the SDGs agenda. In late 2018, he joined the civil service of Pakistan and currently works for the Federal Government in Islamabad. He holds a Masters degree with double majors in Economics and International Development Studies from University of Guelph, Canada prior to which he completed his undergraduate studies in Economics at York University, Canada.



Barrister Afan Khan

Barrister Afan Khan is an Advocate High Court practicing in Islamabad. He earned his LLB (Hon) from the University of London in 2007 and was called to the Bar by Lincolns Inn in 2009, and an LLM (Hons) from the City University London in 2011. He enrolled as an Advocate of the High Court in 2010 and began his career at Fazle Ghani Advocates, the Chambers of Mr Makhdoom Ali Khan, former Attorney General for Pakistan. Currently, he is the founding partner of Afan Khan Law Associates and appears regularly before Courts and Tribunals in Pakistan, including in nearly 100 cases before the various High Courts and has assisted in matters before the Supreme Court. He has undertaken a diverse array of litigation encompassing banking, administrative, service, criminal and Constitutional law matters.

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List of Acronyms

| | |
|----------|--|
| AC | After Corona |
| AD | Anno Domini |
| ADB | Asian Development Bank |
| AEA | Atomic Energy Agency |
| AEDB | Alternate Energy Development Board |
| AIDS | Acquired Immunodeficiency Syndrome |
| AJ&K | Azad Jammu and Kashmir |
| APCO | Association of Public-Safety Communications Officials |
| APSMA | All Pakistan Sugar Mills Association |
| ASTER | Advanced Spaceborne Thermal Emission and Reflection Radiometer |
| AWM | Agricultural Water management |
| BC | Before Corona |
| BIPP | Burki Institute of Public Policy |
| BISP | Benazir Income Support Program |
| BRI | Belt Road Initiative |
| CD | Completion date |
| CDC | Center of Disease Control |
| CET | China Electric Power Equipment and Technology Co |
| CMIP | Chief Minister Insaf Imdaad Program |
| CNN | Cable News Network |
| COVID-19 | Corona Virus Disease 2019 |
| CPEC | China Pakistan Economic Corridor |
| DC | During Corona |
| DG Khan | Dera Gazi Khan |
| DNA | Deoxyribonucleic Acid |
| DRAP | Drug Regulatory Authority |
| EA | Executing Agency |
| ECNEC | Executive Committee of National Economic Council |
| EXIMB | Export and Imports Bank of China |
| F.S | Feasibility Study |
| FAO | Food and Agriculture Organization |
| FBI | Federal Bureau of Investigation |

| | |
|------------|--|
| FDA | Federal and Drug Administration |
| FY | Fiscal Year |
| GB | Gilgit Baltistan |
| GCISC | Global Change Impact Studies Center |
| GDP | Gross Domestic Product |
| GIS | Geographic Information System |
| GMT+ | Greenwich Mean Time |
| GoC | Government of China |
| GoCL | Government of China Concessional Loan; F.C: Financial Closure |
| GoP | Government of Pakistan |
| GPA | Gwadar Port Authority |
| GST | Goods and Services Tax |
| HCQ | hydro chloroquine |
| HDI | Human Development Index |
| HIV | Human Immunodeficiency Virus |
| ICBC | Industries and Commerce Bank of China |
| ICT | Islamabad Capital Territory |
| IMF | International Monetary Fund |
| IMO | International Maritime Organization |
| IPCC | Intergovernmental Panel on Climate Change |
| IPP | Independent Power Producers |
| IPP | Independent Power Project |
| ITC | Information Technology Center |
| JCC | Joint Co-ordination Committee |
| KK Highway | Karakoram Highway |
| KPK | Khyber Pakhtunkhwa |
| LIGO | Laser Interferometer Gravitational Wave Observatory |
| LUMS | Lahore University of Management Sciences |
| MERS | Middle East Respiratory Syndrome |
| MIT | Massachusetts Institute of Technology |
| MMI | Middle Missing Initiative |

| | |
|---------|--|
| MMMV | Maximally Malignant Monster Virus |
| MoC | Ministry of Communications |
| MoPNR | Ministry of Petroleum & Natural Resources |
| MoWP | Ministry of Water and Power |
| MW | Maga Watt |
| NADRA | National Database Registration Authority |
| NASA | National Atmospheric Science Agency |
| NCOC | National Command and Operation Centre |
| NDM | National Disaster Management |
| NDMA | National Disaster Management Authority |
| NED | Nadirshaw Eduljee Dinshaw |
| NFC | National finance commissions |
| NHA | National Highway Authority |
| NIH | National Institutes of Health |
| NPM | new public management |
| NSER | National Socio -Economic Registry |
| NTDC | National Transmission Dispatch Co |
| NUST | National University of Science and Technology |
| OCHA | Office for the Coordination of Humanitarian Affairs |
| PCSIR | Pakistan Council of Scientific and Industrial Research |
| PDMA | Provincial Disaster Management Authority |
| PEC | Pakistan Engineering Council |
| PFC | Provincial finance commissions |
| PKR | Pakistan Rupees |
| PM | Prime Minister |
| PML (N) | Muslim League (Nawaz) |
| Pos | Producer Organizations |
| PPE | Personal Protective Equipment |
| PPIB | Private Power Infrastructure Board |
| PPP | Pakistan People Party |
| PQEOC | Port Qasim electric Power Company |
| PSDP | Public Sector Development Program |

| | |
|--------|--|
| PTI | Pakistan Tehreek Insaaf |
| RA | Responsible Agency |
| RNA | Ribonucleic Acid |
| SA | Supervising Agency |
| SARS | Severe Acute Respiratory Syndrome |
| SDG | Sustainable Development Goals |
| SEDLP | Sochal Energy Development Pvt. Ltd |
| SEZ | Special Economic Zones |
| SGCC | State Grid Corporation of China |
| SMS | Short Message Service |
| SOPs | Standardized Operating Procedures |
| SRF | Silk road Fund |
| SSRL | Sino Sindh Resources Limited |
| UIB | Upper Indus Basin |
| UK | United Kingdom |
| UN | United Nation |
| UNDP | United Nations Development Programme |
| UNESCO | United Nations Educational, Scientific and Cultural Organization |
| UNFPA | United Nations Population Fund |
| UNHCR | United Nations High Commissioner for Refugees |
| UNICEF | United Nations International Children's Emergency Fund |
| US | United State |
| USIP | United State Institute of Peace |
| VCCs | Virtual Call Centers |
| WB | World Bank |
| WFP | World Food Programme |
| WHO | World Health Organization |
| WIT | Water Informatics and Technology |
| WWF | World Wide Fund for Nature |

Executive Summary

The ongoing COVID-19 pandemic is continuing to sweep the world inflicting a huge loss to the human lives. The world-wide coronavirus death rate reached 1.03 million as of October 5, 2020. It is disrupting all aspects of human activity (economic, social, political, religious and cultural) and possibly pushing the global economy towards an unprecedented depression. International Monetary Fund (IMF) predicts that the COVID-19 may trigger the worst economic fallout since the Great Depression of the 1930s with only a partial recovery in 2021. The World Economic Situation and Prospect (WESP) report projects the world economy to shrink by 3.2 percent, racking up around \$8.5 trillion in overall losses. The Gross Domestic Product (GDP) in developed countries is expected to be around - 5.0 percent, while the output of developing countries is likely to contract by 0.7 percent plunging another 34.3 million people into extreme poverty.

COVID-19 has also derailed the Pakistani economy which was in the process of showing signs of improvement. The fiscal deficit is projected to rise from a targeted 7.2 percent to 9.2 percent of GDP. International reserves are likely to be modestly off target i.e., \$12 billion rather than \$12.6 billion. The negative impact in the short run is likely to be severe with economic growth rate receding from expected 2.4 percent in FY20 to an all time low of -0.4 percent.

The poverty reduction gains are also going to be nullified due to the global pandemic. International Monetary Fund (IMF) estimates a sharp rise in poverty rates i.e. from 24.3 percent in 2015 to 40 percent. The following Sustainable Development Goals (SDGs) are likely to be affected considerably:

SDGs 1 on poverty since around 62 percent of households in the poorest wealth quintile rely on farm labor and daily wage (33 percent on farming, fishing and agricultural labor; and 29 percent on wage labor skilled and unskilled non-agricultural work; SDG 2 on zero hunger as another 2.45 million people, in addition to existing 40 million, could be food insecure and around 12 million children malnourished and stunted; SDG 3 on good health and wellbeing in view of: the pandemic pressure on already poor health infrastructure, almost 17 million children under age 5 are at-risk due to delay or complete exclusion from immunization and around 0.47 percent pregnant women are not properly getting pre-and post-natal care; SDG 4 on quality education due to disruption in the educational services as nearly 42 million school children are not able to attend their school; SDG 8 on decent work and economic growth due to the slowdown in the economic growth and loss of jobs estimated between 12.3 million and 18.53 million with expected layoffs of 30% in the formal sector.

Compared to the neighboring countries, Pakistan fared much better in managing the COVID-19 crisis through an impressive blend of measures that saved lives, livelihoods and ensured a long term economic revival. This was done through the prudent deployment of differential lockdown strategies (complete, smart and micro), economic and relief stimulus package and health related interventions. Taking a time bracket of August 26 to August 31, Pakistan reported 31,861 positive cases with an average of 6,341 cases daily. This rate came down to 4,216 cases during the same period with 39 deaths reported at an average of 6.5 per day. This combination of complete, smart and micro lockdowns enforced by and large autonomously by the Provinces produced

impressive results while safeguarding both the health and livelihood of the poor in Pakistan. India's authoritative and centrally imposed complete lockdown policy bore severe consequences as is evident from the country being the second most COVID-19 infected country in the world after USA. Based on the performance, in April 2020, the World Bank agreed for the provision of concessional finance to Pakistan to manage the pandemic efforts, mitigate the disruptive impacts of virus for the contingent emergency response of COVID-19 and strengthen the national systems for public health.

The Annual Report 2020

The annual report 2020 comprises of eleven chapters, each produced by a sector expert. Major contribution as usual comes from Mr. Shahid Javed Burki, who has drafted four of the afore mentioned eleven components. His first chapter starts with the term 'new normal.' This term was first coined by Roger McNamee, in 2003 about the new way of conducting business in the 21st century. This is now applied to the world at large as Coronavirus pandemic has, as reported by Anadolu Agency drastically changed the way, "people live, act and work." This may be the first time, "that history has ever seen such sweeping changes." This chapter provides an overview of the different approaches adopted by the world leaders to combat the crisis and of different segments and activities associated with the 'new normal'. The second chapter dwells briefly on the history of epidemics and pandemics. The fourth chapter of the report contributed by him discusses the beginning of the pandemic in an industrial city in the center of China and the approaches adopted by President Xi Jinping to handle this highly contagious virus. The subsequent rise of xenophobia in China; and how COVID-19 arrived in Pakistan. It is suspected that in the early stages, a small group of Shiite pilgrims were a possible source of infection. In the third chapter, Dr. Farrukh Iqbal provides an update on the state of the economy and assesses the

immediate and short-term impact on economic growth while highlighting the uncertainties that will challenge the future policymakers and economists. Mr. Shahid Najam and Ms. Kainat Shakil in chapter five provide an in-depth analysis of the government's performance by appraising its interventions and strategy in dealing with COVID-19. This chapter identifies the deficits and proposes some specific measures to deal with the enormity of the pandemic challenge. They also compare selected countries i.e., Brazil, China, India, Iran, Italy and USA viz a viz Pakistan in addressing the pandemic. Mr. Tariq Husain and Ms. Atr-un-Nisa in chapter six attempt a multi-country performance analyses of combating COVID-19 pandemic based on scientific capabilities and effective management and also highlight the challenges of global warming and its impact on Pakistan. Barrister Afan Khan in chapter seven, looks at how the legal system of Pakistan found itself in an un contemplated situation and suffered from a paucity of appropriate tools to manage the crises. In chapter eight, Dr. Daud gives a summary of the implementation status of the CPEC to date and new developments and directions of CPEC under the Pakistan Tehreek-e-Insaf (PTI) government. Dr. Mahmood Ahmad and Amirah Ahmad in chapter nine, capture the impact of COVID-19 on food security and agricultural food systems of developing and developed countries and proposes some policy options to control the precarious agricultural and food security situation. Mr. Asad Ejaz Butt in chapter ten, highlights the emerging issues of Pakistan's cities and discusses the governments' capacity and functioning to address the ongoing pandemic.

In the concluding chapter eleven, Mr. Shahid Javed Burki and Mr. Shahid Najam briefly review President Donald Trump, Prime Minister Narendra Modi and Prime Minister Imran Khan's strategies and the impact of these on the economies of their respective countries. The issues to ponder over are: what will the post COVID-19 world looks like?

Now that the 'new normal' has actually transformed almost every aspect of human life and has had a major impact on peoples' welfare, it remains to be

seen how we deal with the emerging, post-COVID-19 world.

The Table below attempts to capture the key findings and recommendations of the 2020 Report.

Summary Findings and Recommendations

| Key Findings | Recommendations |
|---|--|
| <p>COVID-19 is expected to have a sharply negative impact on economy. In the short run, Pakistan will not be able to achieve 2.4 percent goal for Fiscal Year (FY) 20. The economy is expected to decline first time since independence by 0.4 percent. The current account deficit, however, is projected to improve, from a target of - 2.2 percent of GDP to -1.7 percent.</p> <p>The longer term impact will come about from three principal channels i.e. (i) the global economic slowdown is likely persist into 2021 and 2022. Despite a growth in export-oriented sectors and a growth of 11.3% in textile exports, a cotton crop failure can cost Pakistan over \$ 8 billion/annum in lower GDP. (ii) though, remittances have surged by 33% to \$ 2.3 billion because of political instability in the Gulf region, it can cause stagnation in the long run. and (iii) a possible adverse impact on the Pakistani workers' productivity as a result of the pandemic's follow-on effects on health and morbidity.</p> <p>Over centuries of recorded history, more than a billion people have died from the diseases caused by viruses and bacteria with severe implications for empires, governments and human generations. It was the intellectual and practical application of the scientific method that came to humankind's rescue and reduced the epidemics' toll. The arrival of antibiotics successfully dealt with a number of infections. Vaccines were developed that increased body's resistance to viral and bacterial attacks.</p> | <p>The country needs to look beyond macroeconomic indicators and assess what is being experienced by the poor and vulnerable during these trying times. The health and nutrition problems of a substantial proportion of poor and vulnerable population especially those working in the informal sector and the pandemic's multifaceted impact on their ability to earn incomes and maintain good health over time needs to be factored in. This is of vital significance even if their number does not necessarily show up in national infection and mortality counts.</p> <p>The following four recommendations must be considered while developing public policy:</p> <ol style="list-style-type: none"> (1) The importance of hygiene, investment and management by the state of public health services. (2) The importance of good governance not just in the developing world but also in more developed nations. (3) The importance of timely investment in pandemic-science and research both by the state and private enterprises to stay one step ahead of what |

There is great hope that a vaccine would be developed in the not too distant future to increase human resistance to COVID-19.

Two approaches, mitigation and suppression, were followed around the world in combating COVID-19. The first focuses on dealing with the extreme virus-infected cases by timely and sometimes intensive intervention by the medical community. The second way is to adopt measures- even extreme measures- to suppress the spread of the disease. Most epidemiologists prefer mitigation over suppression.

Two models are being followed even when suppression is the preferred option. The first is to opt for a centralized approach in which even large countries are using the same way of dealing with the crisis. This is essentially what China eventually did and India decided to do in the program announced by that country's Prime Minister Narendra Modi on March 23. The United States decided to leave control to the states where different governors followed different approaches. The result of the latter way of handling the crisis was to create a great deal of confusion.

Religion played a part in that believably as it was possible that Shiite pilgrims brought the virus to Karachi, which became the epicenter of the disease in Pakistan. Members of the Tablighi Jamaat were another source of COVID-19 in both India and Pakistan who picked up the virus from a large gathering of Jamaat in Malaysia.

COVID-19 pandemic continues to be an unprecedented challenge for Pakistan. The government so far has managed it remarkably well which has been acknowledged internationally. Pakistan government's measures enshrined in the National Action Plan (NPA) for the Corona Virus Disease including blend of complete, smart and micro-lockdowns, testing, tracing and quarantine and self-isolation

may strike their people by way of pandemics.

4. The importance of globalization and cross border health regulation in the wake of increased international travel.

The case study of Pakistan highlights the following policy steps that can be taken in the future to avert disasters:

(1) A pro-active role of the government at federal, provincial and local levels to mitigate disasters such as pandemics.

(2) Need for engagement of the religious stakeholders to help support the national efforts of dealing with a disaster.

The following recommendations are proposed by the author:

The government should assume a clear leadership role in achieving a national political consensus and response to catastrophes and together with the opposition, desist from polarized politics

The government, with the help of the UN system notably WHO and major relief agencies like UNDP,

led to the curtailment of the spread of virus considerably. The economic stimulus package and relief measures did provide some solace to the livelihood and wellbeing of the poor. However, there are definitely some specific areas of improvement which need to be heeded to ensure a more efficient, cost effective and timely response to the possible second wave or the future epidemics. These key areas of improvement include: curtailing the spread of the pandemic, dealing with the pressure of the religious groups, border closure and quarantine facility, lockdown regime, healthcare system, the reliability of data, relief measures, communication and awareness Campaign and regulating the educational institutions for SOPs compliance.

The scientific understanding of the spread of epidemics has highlighted the criticality of nurturing prevention oriented norm and culture not only for the citizens but also for the entirety of business, commerce and trade operations to inspire behavioral change and psychological resilience.

Despite all the warnings and predictions- recent and historical- humanity is not ready to deal with the global challenges of Climate Change and COVID-19. Both require scientific capability and governance. While both governance and scientific capacity are necessary for successfully coping with the COVID-19 challenge, they are not sufficient. Climate Change is unequivocal. The observed

OCHA, UNICEF, IMO, UNHCR, should undertake further analytical studies to identify the possible and projected epidemic scenarios to validate and/or augment the NPA and integrate it with the economic development process.

A fully functional institutional and governance structure with elaborate vertical and horizontal coordination is sine qua non for effective, timely and efficient response to a pandemic of such scale and size especially in view of the 18th amendment of the constitution e.g., health, education and social protection with provincial government and border control and aviation within the federal domain.

Government needs to establish its writ and should not to succumb to extreme religious pressures and mobilize the moderate religious scholars who support science based decisions to regulate religious worship places.

A special focus on the slum area and Katchi Abadis is essential as the inhabitants are more vulnerable to infectious diseases because of lack of access to basic municipal facilities such as proper toilets, drainage and clean drinking water.

NGOs, CSOs and development partners should be mobilized to build simple and scalable solutions to prevent the next epidemic with focus on improvement of local technical capacity for planning and implementation; political and financial support etc. Better hygiene, cleaner environment, periodic health checks, improved building ventilation system and protective equipment should become the norm and inalienable collective responsibility.

The following actions are imperative:

Amalgam of good governance and diversified scientific capacities is sine qua non to cope with the COVID- 19 as well as climate change.

There is a dire need to:

(1) understand the glaciers in the Himalayas by a work cooperation agreement with NASA;

changes are unprecedented e.g., the warming of atmosphere and oceans, diminishing of amounts of snow and ice, receding of the glaciers, rising sea levels etc.

The High Mountain Asia in future could see ice loss from 29 to 67 percent, depending on the level of greenhouse gas emissions. Water flow in monsoon fed river basins, driven largely by melting glaciers, could hit its peak by 2050. Pakistan's population is increasing while the water supply is fixed, or likely to decrease due to Climate Change. The Indus Basin is already experiencing water scarcity and country's water productivity in agriculture is globally at the low end.

The Pakistani legal system proved to be ill-equipped to handle the myriad of challenges posed by COVID-19 primarily owing to the antiquated and colonial legacy of the Epidemic Diseases Act' 1897 which constituted the basis for subsequent legal framework the West Pakistan Epidemic Diseases Act' 1958, the Sindh Epidemic Diseases Act' 2014 (amended in May 2020), etc. Even the National Disaster Management Act' 2010 seems to have been predicated on an emergency being limited in time and space.

As such, initially at every step, government response has been hampered by gaps in the legal and regulatory framework, paucity of institutional knowledge, uncoordinated response, patchy and haphazard measures to rectify deficiencies, and most damning of all, an out dated and ill-suited legal environment. However, the Punjab Infectious Diseases (Prevention and Control) Act 2020 and KPK Epidemic Control and Emergency Relief Ordinance 2020 are an effort in the right direction to update the legal framework.

CPEC Phase-I implementation has proceeded satisfactorily. CPEC construction over the last five years has completed 16 projects; another 16 are under construction with total investment amounting

(2) develop and implement a high priority program of policies and investments in institutions to significantly improve water productivity guided by the behavior of the Himalayan glaciers;

(3) study urbanization and population growth in Pakistan;

(4) designate operational responsibility to the Planning Commission and allied departments for dealing with the nationally important challenges of Pakistan.

Amongst the numerous post pandemic challenge that need to be tackled includes litigation over pandemic era and affected contracts and over the return of assistance funds obtained by private enterprise from the Government.

A detailed study of the legal system is warranted to both regulate and facilitate management and response to the pandemics.

The National Command and Operation Centre has expanded and complemented the work of the NDMA and should be made permanent through an appropriate Act of Parliament, in much the same way as the NDMA was after the 2005 earthquakes and the 2010 floods.

The newly established CPEC authority needs strong professional staffing, operational procedures, a clear mandate, adequate professional resources and protection from political interventions to manage

to \$ 25.3 billion. Nine energy projects have been put into commercial operation, with total installed capacity of 5320 MW and with investment amounting to \$ 8.175 billion. CPEC has also created 75,000 jobs directly and 200,000 jobs indirectly for Pakistani workers. More than 100 small and medium-sized enterprises have been involved in CPEC construction with over 100,000 jobs.

There is a shift from thermal to hydel power, fast tracking of Gwadar Area projects, commencement of some works in development of SEZs and a clear emphasis to develop the CPEC western route with PSDP funding. Furthermore, the government has given the go ahead for the expensive ML1 railway projects which will warrant prudent preparation and implementation. Finally, a CPEC Authority has been established, which will need strong professional staffing and suitable operational procedures.

Two areas of weakness in the current CPEC program are reduced emphasis on alternative energy projects (no new solar or wind projects initiated) and little visible progress on broader agriculture related project which are essential to create employment and exports. A critical requirement for Pakistan to become part of the regional value chain.

The momentum on initiatives under CPEC slowed down during 2019. The onslaught of the global pandemic in early 2020 further complicated things, as Pakistan, like other countries is faced with a new set of health, economic and financial challenges.

The COVID-19 pandemic is threatening the food security system and putting workers at greater risk. The lockdown impacted food accessibility, agriculture input supplies, jobs and farmer income. With disrupted local food supply chains and limited storage capacity, farmers became desperate to sell their produce, particularly perishables.

If COVID-19 turns into a protracted crisis, meeting food security needs will be challenging not only for developed but also for developing countries. The

the internal challenges of planning, financing and coordinating between institutions, provinces and agencies for achieving speedy outcomes.

Transparency in selection of projects and award of contracts will need to be established.

A properly designed “enabling environment” framework consisting of laws, incentives and supporting facilities will be critical for the socio-economic projects. This is a critical requirement for Pakistan to become the part of the regional and global value chain.

A fair amount of strategic planning and analysis will be required for successful development of SEZ component.

Well-functioning supply chains are essential to meet basic agriculture and food security needs. In the short term, efforts must be invested in preventing deepening of disruptions to crop production and protection systems; adopting financial support measures for smallholder farmers e.g., deferring agriculture credit payments, reducing and/or waiving interest rates on loans and price control of essential inputs; strengthening the resilience of communities through awareness campaigns and

developing countries are finding difficulty in carrying out livelihoods, let alone concerns about pandemics. Recent locust attacks in parts of Africa and now in Asia, such as Afghanistan, Pakistan and India, are having a devastating effect on rural economies, and are considered just one of the crises within a crisis.

After decades of input-intensive farming, the soil systems in the flood-irrigated areas of Pakistan are badly deteriorating due to high salinity, excessive dosage of fertilizer and irrigation water with the result:

1- Soil water absorption, retention and provisioning capacity had declined over time. Crops which previously needed irrigation only once every 3 to 4 weeks or so now need water after less than 10 days.

2- Input-intensive farming that started with the Green Revolution in the 1960s promoted repeated ploughing to make the soil powdery, but it also became more susceptible to wind and water erosion in addition to reduction in water absorption capacity of the soil.

3- To exploit the full potential of improved seed varieties, high fertilizer dosing, numerous pesticide spraying and excessive irrigations were recommended. By the middle of 1980s, yield increases in the agricultural sector stagnated.

Urban areas worldwide have become the epicenter of the pandemic. The large size of the population and the interconnectivity with other cities and

helping the most vulnerable groups access essential seed, fertilizer, pesticides, agricultural machinery, repair services, veterinary services and medicines, and animal feed — critical components of the supply chain.

Post-COVID-19 consequences must be centered on policy objectives of increasing the crop production and agriculture income of smallholder farmers through better access to technology, credit, and markets and institutional reforms. The cropping cycle timeliness; mechanisms to make food supply chains more inclusive for smallholder farmer; encouraging local food production and simplified food supply chains; and managing safe mobility of labour and products are essential.

In the long run, eco-friendly farming systems must be incentivized through paradoxical agriculture for sustaining higher productivity and profitability levels and inclusiveness of agriculture. An efficient and hygienic food supply chains including peri-urban agriculture must be developed at market level to ensure delivery of food from production to consumption nodes in a safe and cost effective way.

It is essential to create e-driven economic and technological platforms at the production, supply chain and marketing level including precision agriculture; internet of things for checking soils and water health; introducing traceability of products; e-agriculture advisory services; e-agriculture market place information; disaster alerts; drones and GIS-based application to support land use mapping; crop monitoring; productivity estimations and weather advisory services; and finally, artificial intelligence that informs plant disease detection, weather prediction and climate change analytics.

The development of cities cannot be achieved without incorporating the bottom-up approaches to development. The process of devolution that had to

international destinations makes urban areas extremely vulnerable to pandemics most particularly lack of access to quality and affordable healthcare and housing which exacerbate the vulnerabilities of cities to hazards, natural disasters and pandemics.

The pandemic not only brought the cities back into the mainstream but also shook the governments who were slow to respond to the changing needs of the cities. It also justified the need to take the focus of governance to the cities which must be the primary unit at which governance and administration should take place. The current administrative system that lacks both financial and human resource capacity is an inadequate force to deal with the modern threats like climate change, waste management, terrorism and pandemics. The ACs and DCs which head the existing institutional structure in the tehsils and the districts do not have the capacity to deal with such contingencies and therefore require support from the provincial and federal governments which we have seen in the case of COVID-19 emergency, is often slow to come. Thus resulting in huge losses of lives and livelihoods.

be brought into motion through the implementation of the 18th amendment to the constitution of Pakistan would remain incomplete until the capacity of local governments is enhanced to undertake broad-based reforms and provide end-to-end solutions to all development problems.

Modern day threats like climate change, terrorism and pandemics have to be dealt with through advancements in climate control, security and health management systems.

Governing cities requires accommodating the divergent claims of cultures,

Provincial Finance Commissions (PFCs) must be activated and provided with the necessary equipment and technical support to make efficient allocations based on modern techniques like the medium-term budgetary framework.

Chapter

1

Introduction

Introduction

Shahid Javed Burki

As we began the process of preparing the 2020 annual report issued by the Burki Institute of Public Policy, we did not have to look far to find a theme on which to focus in this year's document. The world has changed and is changing rapidly because of the rapid spread of a COVID-19 that is far more deadly than all those that preceded it. The World Health Organization (WHO) gave this virus a name which would not identify it with a region or a country. Notwithstanding the United States President Donald Trump continues to call it the "China virus" and sometimes the "Kung flu." This had affected his already strained relations with China. The WHO settled for the name COVID-19 for the virus and the disease it causes. The "19" in the name signifies the year - 2019 - when it first appeared. The virus showed up in Wuhan, a city in central China, that is home to a number of industries and businesses in which foreign capital has been invested. As such, the city is well-connected with the world and there is a fair amount of travel between it and the world outside.

Wuhan is also home to a state of the art laboratory in which Chinese scientists do pioneering work on germs and viruses. Those who are generally suspicious of China and that includes some trained

scientists - initially spread the word that the Wuhan institution had deliberately developed the deadly virus for the purpose of smuggling it to the United States but it escaped and took residence in Wuhan's food markets. But the presence of the medical-research facility had nothing to do with the appearance or spread of COVID-19. There is now a consensus among serious experts that the virus entered the human food-chain, starting with bats that are known to carry some forms of coronavirus. The virus incubated for a while and then got out into the wider world, taken by infected citizens.

The story we are telling in this year's report has been told several times before. It is the epic struggle of nature versus man in which neither wins but one, the man, gains the upper hand for a while. It is hard to tell when and where this contest exactly began but this much we know that millions of people would have lost their lives, many more millions would have lost their ability to make a living, several economies would have been destroyed - or, at least would have lost their bearing - and the world political order would have been transformed. All this would happen because of the sudden appearance of a deadly virus - Novel Coronavirus - that appeared quickly and spread rapidly. It had visited before, the

reason why this version was called "novel." The earlier versions were not as deadly but did cause epidemics that came to be known by their acronyms, SARS and MERS. The first stood for Severe Acute Respiratory Syndrome, the second for the Middle East Respiratory Syndrome. Those were considerably less deadly than the "Novel Coronavirus." Even the common flu that strikes the world every year and kills thousands of people is caused by a version of coronavirus.

The pandemic story changed every day; the number of cases reported from various parts of the world and the number of people who succumbed to the disease increased every minute, every hour. That so much uncertainty surrounded the subject is not the only reason why a longer work is required. The subject is encyclopedic in its scope. Ideally an author would explore the role epidemics have played in mankind's history from the beginning of recorded time. Telling the history will need much more than counting the number of people felled by a particular disease but also focus on what kind of efforts that were made to control it and what kind of long-term affect it was likely to leave on the global economy, the world political system and society.

The coming of the crisis invited a great deal of excited commentary. I will take an example of this from an article by Roger Cohen, originally from South Africa but now settled in the United States. In it he recalled the theme of the book published by a French writer in 1947, two years after the death of German and Italian Nazism at the hands of the United States and its European partners. The book, *The Plague*, by Albert Camus was meant to be an eternal reminder that "the plague bacillus never dies or vanishes entirely, that it can remain dormant for dozens of years in furniture or clothing, that it waits patiently in bedrooms, cellars, trunks, handkerchiefs and old papers, and perhaps the day will come when, for the instruction or misfortune of mankind, the

plague will rouse its rats and send them to die in some well-contended city."

Cohen drew a political message from the work of Camus. In his column "A Silent Spring is Saying Something" the author focused on Trump. He wondered whether the infinitely small coronavirus was conveying a political message. He wrote: "I have experienced physical shock watching leaders like Angela Merkel in Germany, Justin Trudeau in Canada and Emmanuel Macron in France speak about the pandemic. We Americans do not grasp how insidiously Trump has accustomed us to malignancy. A germophobe, he has spread the germ of untruth." Cohen recalled Camus again before concluding his article. "The only way to fight the plague is with decency, because decency in the face of pestilence, redeems not just the individual, but all of humanity. The virus, both pathogenic and political, requires everyone to defeat it."¹ Cohen wrote this before Trump, in one of his evening briefings on the COVID-19, crisis came up with the totally bizarre and dangerous suggestion that one way of dealing with the disease might be to indigest common household detergents - to drink them or to have then injected into the body. He also suggested that human beings could be radiated with ultraviolet rays.

We write this report as the United States draws closer to the November 3, 2020 elections at which votes would be cast for the next resident of the White House. Donald Trump is a candidate representing the Republican Party. He will face Joseph Biden, the Democrat, who had served as President Barack Obama's Vice President for eight years. Having failed to develop a storyline to win the voters' backing, Trump drew COVID-19 into the conversation. And in this context he made the wearing of a facial mask a partisan issue. But why make partisan issues out of what should be straightforward public policy? Asked the Nobel Prize winning economist

Paul Krugman who is now a columnist for The New York Times. He had an answer. "We're looking at the efforts of an amoral politician to rescue his failing campaign. The economy's partial snapback from its plunge early this year has not given Trump the political dividends he hoped for. His attempts to stir up panic with claims that radical activists are going to destroy the suburbs haven't gained traction, with voters generally seeing Joe Biden as the better candidate to maintain law and order. And it's probably too late to change the views of the majority of voters believing that he has given up on fighting the coronavirus. So, his latest ploy is an attempt to convince people that COVID-19 threat is over. But widespread mask-wearing is a constant reminder that the virus is still there. Hence Trump's renewed push against the simplest, most sensible public health precautions."²

This work has been written for the readers in Pakistan but we will discuss and analyze at some length developments that cover the ground beyond this country. At some length we detail how Imran Khan, the country's Prime Minister, chose to deal with the scourge. This is done in order to provide our readers - in particular the policymakers - the context and the understanding they should have before setting out to take actions that would impact the entire population and would have consequences that would last a long time. Coronavirus and COVID-19 the respiratory disease it causes proved to be a highly disruptive event not only for Pakistan but for the world at large. It resulted in the postponement by a year of Olympics that were to be held in Tokyo in the months of July and August 2020. The Japanese government was very reluctant to take the step but various Olympic organizations across the globe put pressure on Tokyo indicating that the lockdowns in some of their countries were preventing their athletes to prepare for the event.

The big story about the crisis is centered on the

question of choice - to begin with the cost of human life and the price paid to save it. There is the question relating to political peace and economic disturbance. Take the case of Russia as an example. There, Vladimir Putin, the country's president, is more concerned with minimizing political damage and suppressing information than leading his country out of a crisis. That trade-off suits Putin, but not the people he governs. India shut down its economy completely for a while incurring a heavy economic loss. In a report issued by the government on August 30, it estimated that the GDP in the second quarter of the year 2020 had declined by 24 percent compared to the level reached in the same quarter in 2019. In America there is a trade-off between states' rights and federal action. India, another large federal system and increasingly authoritarian, placed the central government in the driver's seat.

The government headed by Narendra Modi, the country's powerful prime minister, "locked down" the country, shutting down all economic activity for three weeks. How would this affect the poorer segments of the population and the country's poorer regions were some of the questions not asked and answered as New Delhi suddenly sprang the move on its people. An important question the discussion of India leads to is the rise of authoritarianism around the world and the circumstances that have led to this phenomenon.

The approach adopted by the United States grew out of confusion, in particular in the way President Donald Trump, the country's chief executive acted. The American president did not fully comprehend the extent of the crisis and gave mixed and confusing signals to its citizens and the world. A good part of this was the result of the president's changing views. The important lesson to be learnt from the American experience is that in a large federal system such as the one it operates, it is necessary to have a well-coordinated approach. The Trump administration

left much in the hands of governors of the fifty states that make up the country and the mayors of large cities. As The Washington Post wrote in its editorial in its issue of March 31, "there is no room for a patchwork response. Without restrictions in place, what's happening in New York City today will be in Miami, Detroit or Chicago tomorrow. A few irresponsible politicians can undermine recovery for everyone a piecemeal approach invites a raging, rolling pandemic."³

In Pakistan Imran Khan, the Prime Minister, addressed his nation a number of times and rejected the national lockdown as a way of dealing with the developing situation. He tried hard but did not entirely succeed in getting religious leaders to cooperate with his government and not congregate in mosques, particularly during the holy month of Ramazan that began on April, 25 2020. How religious practices affected policies aimed at dealing with COVID-19 could have been a separate chapter in this report. But we chose to deal with the subject in the country discussions. Islam was not the only religion whose practices had to be accommodated in the making of COVID-19 public policy. In the Hindu religion, large public gatherings that bring people close together also defy social distancing, an important component in the overall approach to prevent the spread of the virus.

We will begin this report with a brief discussion of pandemics in world history, a subject that has not received as much attention of scholars as was the case with wars. We will end the report with a chapter on how the shuttered economies in both developed and developing parts of the world can be revived. To use the phrase that Paul Krugman has used in the columns contributed to The New York Times, several parts of the world have been put under "chemically induced comas." As practiced in medicine, these comas are used to allow the brain to recover from the shocks it has received because of

some disease⁴. It is an apt metaphor to use for the various forms of "lockdowns" to which policymakers have resorted to save the economies for which they are responsible from totally collapsing.

At the time of this writing -- early fall of 2020 -- economists, political scientists, sociologists, historians have been earnestly debating on how the world should be brought out of this induced coma. In particular what should be the role of public policy at different levels of government in restoring health to the global economy and to the economies of various countries around the world.

I write this introduction to the report in the beginning days of September 2020 when the virus and COVID-19, were still spreading. According to newspaper reports, in the beginning of September 2020, 29 million people in the world were infected with the virus. Of these 922,000 had died from COVID-19. Of the large countries around the globe, the United States had proportionally the most affected population with 6.5 million cases and 194,000 deaths. In just two months, from July 4 to September 13, the number of people affected by the virus in the United States had increased by 3.7 million while the number of deaths had 59,000, or by close to one thousand a day. According to one assessment the United States would end the year with 410,000 deaths from the virus. President Trump continued to belittle the crisis his country faced. At a press conference held at the White House on September 4, President Trump said that "we're rounding the corner." When asked what the president meant by that statement, Dr. Anthony Fauci, by far the most knowledgeable person in the United States about the disease said that he didn't understand what the President meant. On the same day, Pakistan had 298,000 cases of infection of which 282,000 had recovered. The number of deaths were reported at 6,335.

The global economy has been deeply affected by the way it has tackled the spread of the virus. Although Pakistan is not as well connected with the global economy as are many other emerging markets, it will still be impacted by what happens to the world, in particular to the United States. The minutes of the meeting of the U.S. Federal Reserve Bank held on June 9 and 10 painted a grim picture of what lies ahead. "Some businesses will not make it through pandemic-spurred economic crisis. Consumer spending will not fully bounce back even into the

next year. And there is a serious chance of a double-dip downturn that could permanently scar the American labor force⁵." Against that grim backdrop, federal officials chose to leave interest rates at rock-bottom levels in June having slashed them to near zero in a series of emergency meetings in March 2020. As Farrukh Iqbal points out in his chapter, the State Bank of Pakistan has followed the same course, dropping the federal rate a number of times in 2020.

Chapter

2

**The Impact of COVID-19 on
the Pakistani Economy**

The Impact of COVID-19 on the Pakistani Economy

Dr. Farrukh Iqbal

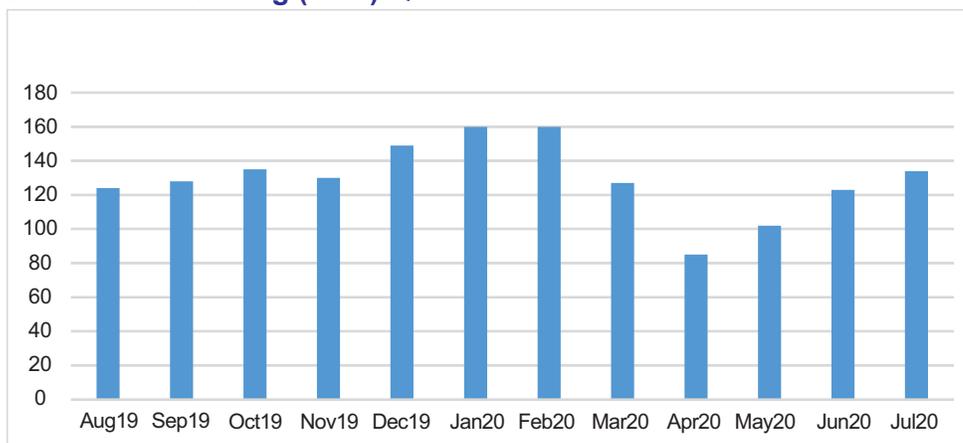
Context

Prior to the onset of the COVID-19 pandemic, the Pakistani economy was on track towards meeting the targets of the stabilization and adjustment program arranged with the International Monetary Fund (IMF) in July 2019. The IMF operation provided about \$6 billion in financial support to be disbursed over a period of 39 months. The macro-economic targets for each quarter were jointly agreed with the Government of Pakistan. Key areas of improvement included the current account deficit, the fiscal deficit and the international foreign

reserves position. To achieve these, the Government of Pakistan took several strong measures during Fiscal Year (FY) 2019 and 2020, including allowing substantial exchange rate flexibility, tightening monetary policy through a high policy rate, increasing the price of electricity to achieve a greater degree of cost recovery, cancelling some exemptions to close tax loopholes and raise tax revenues. A review was conducted by the IMF in April, 2020 in connection with a request by Pakistan for pandemic-related emergency assistance and satisfactory progress was noted in key areas during the first six months of the program (see IMF, 2020). During this period,

FIGURE 2.1

Large Scale Manufacturing (LSM) Quantum Index



Source: Pakistan Bureau of Statistics

exports also generally picked up as did agriculture. The current account deficit narrowed significantly, while the fiscal balance showed a primary surplus for the first half of FY20.

Immediate Effects of the Onslaught of COVID-19

When COVID-19 became a global pandemic in March 2020, and a rising number of infections began to be detected in Pakistan, the government took quick measures to protect the population. These measures included the shutdown of some industrial activities (especially those carried out by large workforces in factories), curtailment of some service activities (such as restaurants and transport) and the imposition of social distancing and mask-wearing protocols¹.

The immediate effect of the lockdown was felt in industrial activity. Large scale manufacturing activity, a leading indicator for overall manufacturing activity, declined by 21 percent (month to month) in March 2020 and a further 33 percent in April 2020 (see Figure 2.1)². The growth in the services sector also slowed down significantly. The sudden reversal of fortunes for key economic sectors had a knock-on effect on the fiscal balance which deteriorated as monthly revenue collections declined. Meanwhile, the trade balance was adversely impacted both by the slowdown in production and by the decline in demand for Pakistan's exports in international markets, though this was offset to some extent by a reduction in the demand for imports.

Shortly after the lockdown, the Government announced a fiscal support package equivalent to 1.2 percent of GDP. The largest part of this was directed at poor and vulnerable families as well as daily wage earners who had been laid off³. Other parts aimed at increasing the supply of food from the network of utility stores, support for the export sector in the

form of quicker repayment of Goods and Services Tax (GST) refunds and higher levels of funding for the national disaster response agencies.

Together with the fiscal package announced by the Ministry of Finance a financial package was announced by the State Bank of Pakistan. This was designed to cushion the impact of the lockdown by providing additional liquidity. Among the critical measures of this package were the lowering of the policy rate by 225 basis points to 11 percent and the expansion of refinancing schemes to support economic activity in general and hospital and medical related activities in particular⁴. The exchange rate market was also managed with a view to preventing disorderly conditions in the wake of the pandemic shock: the rupee depreciated by about 8 percent relative to the dollar during March after having appreciated for several months prior to that.

Assessing the Short Run Impact of COVID-19

Provisional estimates are not yet available for key macroeconomic indicators for the full fourth quarter of FY20, the quarter in which the initial effects of the lockdown measures are expected to be registered. However, some projections have been made by the government as well as by the IMF. These are reported in Table 2.1 as full-year outcomes that can be compared with targets set earlier in the fiscal year at the time the IMF adjustment program was launched. Compared with original targets, COVID-19 has derailed the economy from the path of improvement in some areas⁵. The fiscal deficit is projected to be higher than that previously targeted, by about 2 percent of GDP (rising from a targeted 7.2 percent to 9.2 percent of GDP). International reserves are likely to be modestly off target, reaching US\$12 billion rather than US\$12.6 billion. Overall, COVID-19 is expected to have a sharp negative impact in the short run. Instead of growing by 2.4 percent in FY20, the

TABLE 2.1**Macroeconomic Indicators**

| Macroeconomic Indicators | FY18 | FY19 | FY20T | FY20P | FY21T | FY21P |
|--|------|------|-------|-------|-------|-------|
| Real GDP growth (percent change) | 5.5 | 1.9 | 2.4 | -0.4 | 3.0 | 2.0 |
| Inflation (percent change) | 3.9 | 7.5 | 11.8 | 11.3 | 8.3 | 8.0 |
| Fiscal deficit (percent GDP) | -6.4 | -8.8 | -7.2 | -9.2 | -5.7 | -6.5 |
| Current account deficit (percent GDP) | -6.3 | -4.9 | -2.2 | -1.7 | -2.0 | -2.4 |
| International reserves (US\$ billions) | 9.8 | 7.3 | 12.6 | 12.0 | 16.9 | 15.6 |
| Worker remittances (US\$ billions) | 19.9 | 21.8 | 22.6 | 20.8 | 23.8 | 20.5 |

Source: Pakistan Bureau of Statistics and IMF

T=target prior to COVID19; P=projected after COVID-19

economy is expected to decline by 0.4 percent⁶. This marks the first time in almost 70 years that Pakistan is set to experience a negative growth rate.

The current account deficit, however, is projected to improve, from a target of -2.2 percent of GDP to only -1.7 percent. In part, this is because of compensating moves in exports and imports: while exports fell due to the global economic slowdown during March-June 2020, imports fell by a greater amount. The fall of imports was due to lower domestic demand as a result of the sharp depreciation of the rupee through the previous eighteen months as well as to a lower price of oil.

Effects on Business: Micro Evidence

The foregoing notes the likely macroeconomic effect of COVID-19 on the economy. This is, of course, an aggregation of millions of microeconomic effects felt at the level of firms and individuals. A recent (online) survey of the micro, small and medium segments of the industrial sector provides an additional perspective on the impact at the microeconomic level⁷. About 95 percent of the 184 firms surveyed reported some adverse impact from the lockdown imposed in late March 2020. Of these firms, 38 percent reported a severe impact on their output and profits arising from disruptions in

financial arrangements, supply chains and sales. About 43 percent reported laying off employees and 13 percent indicated that they might shut down their businesses altogether because of cash flow shortages. About 75 percent reported that they expected a profit decline of more than 60 percent. The suddenness of the lockdown meant that managers had no plan in place to cope with its consequences.

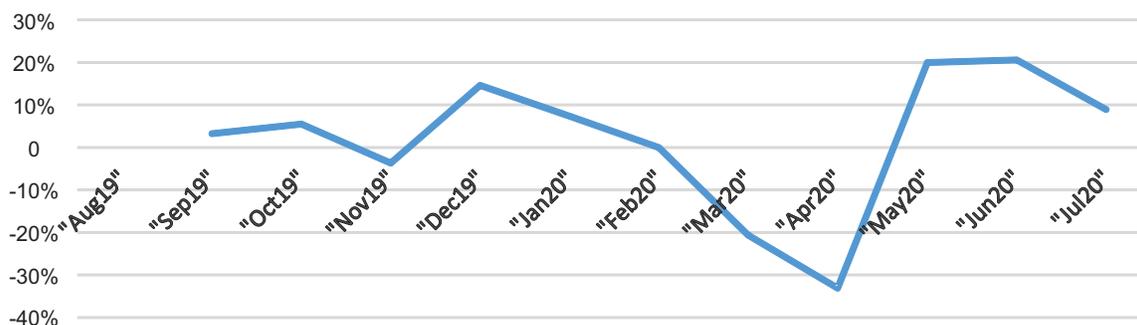
The End of the Lockdown

Mindful of the economic impact of a comprehensive lockdown, the Government started easing mobility and work restrictions in late April. While social distancing and mask-wearing protocols remained in place, those factories that wished to re-open were free to do so and a wide range of services were allowed to restart. As of this writing (September 2020) the country is fully open again; even schools were reopened in mid-September⁸.

The government is following what it calls a “smart lockdown” strategy whereby it imposes restrictions only on locations where the COVID-19 infection case rate is high. It identifies such cases through a “track and trace” process to identify individual carriers as well as outbreak hot-spots. Initially, there was much concern (see, for example, International

FIGURE 2.2

Percentage Change in Large Scale Manufacturing (LSM) Quantum Index



Source: Pakistan Bureau of Statistics

Crisis Group, 2020) that this strategy would not work in an environment of low testing rates, poor data transmission and weak administrative controls on public behavior⁹. However, despite an initial surge in June 2020, there has not been a sustained increase in infections or pressure on hospital beds since the reopening of the economy and the death rate has remained low. Furthermore, major public events like Eidul-Azha and Muharram have now passed without a spike in cases. Indeed, the rate of infections has come down from as high of as 7,000 new cases per day in mid-June to less than 350 cases per day in September¹⁰. Pakistan's good performance has attracted notice in the global press, especially in comparison to the continuing surge in its neighborhood, especially India¹¹.

Once again, the immediate impact of the lifting of the lockdown was felt in industrial activity. The months of May, June and July saw monthly jumps of 20, 21 and 9 percent respectively in the large scale manufacturing quantum index (see Figure 2.2). The month of July saw particularly sharp upticks in the outputs of the food, beverages and tobacco sector as well as the pharmaceuticals and non-metallic minerals sectors.

The Longer-Term Impact of the Pandemic

While the short-term impact of the onset of the

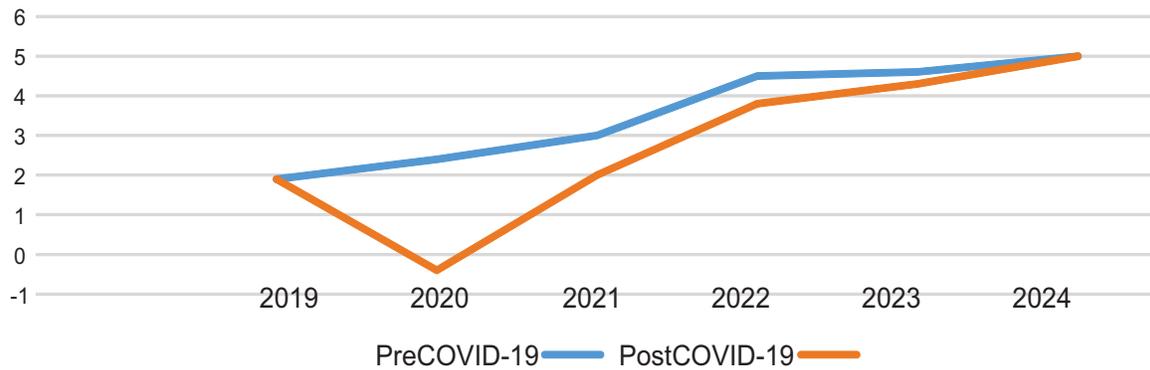
pandemic was due largely to the decline of economic activity brought about by the lockdown in March and April, the longer term impact will come about from three principal channels i.e. First, the global economic slowdown is likely persist into 2021 and 2022.¹⁴ Despite a growth in export-oriented sectors and a growth of 11.3% in textile exports, a cotton crop failure can cost Pakistan over \$8 billion/annum in lower GDP. Secondly, though, remittances have surged by 33% to \$ 2.3 billion because of political instability in the Gulf region, it can cause stagnation in the long run. Thirdly, a possible adverse impact on the Pakistani workers' productivity as a result of the pandemic's follow-on effects on health and morbidity.

Projecting the long term impact is difficult since many uncertainties are involved. The IMF team that considered the matter in April 2020 projected a sharp drop in GDP for Pakistan in FY20, followed by a V shaped recovery in FY21 which then tapered into a flatter trajectory that rejoined the original pre-COVID-19 growth path in FY24. This still remains the best guess at the moment, though the decline in FY20 has turned out not to be as sharp as projected in April¹⁵. A similar projection was made by the World Bank in its Country Brief for Pakistan in April 2020.

Though the short term impact has not been as bad as

FIGURE 2.3

Longer Term Impact of COVID-19 on Growth Path



Source: Pakistan Bureau of Statistics

originally expected and the long term impact may also be more moderate than what we have noted above, we should look beyond macroeconomic indicators to what is experienced by the poor and vulnerable¹⁶. A substantial proportion of the population in Pakistan is poor or vulnerable, works in the informal sector and confronts significant

health and nutrition problems. The pandemic may affect them in multiple ways that hamper their ability to earn incomes and maintain good health over time. These may have a significant impact on their welfare even if it does not necessarily show up in national infection and mortality counts.

Chapter

3

**Epidemics and Pandemics in World
History**

Epidemics and Pandemics in World History

Shahid Javed Burki

Follow the chapter on the economic situation with two chapters - Chapters Three and Four - that deal with the viruses and the diseases they cause. Chapter Three provides a quick overview of the world history of epidemics and pandemics - that occurred with considerable frequency and took heavy tolls on human beings. Over centuries of recorded history, some historians have estimated that over a billion people have died from the diseases caused by viruses and bacteria. Plague was a big killer up until the 20th century as was small-pox and respiratory ailments such as influenza. The influenza epidemic in 1918, in what was then British India, killed 4 to 6 million people in India and had serious negative effects on the economy. This was to be the first decline in the country's population.

It was science that came to mankind's rescue and reduced the toll taken by epidemics and pandemics. Among these scientific developments was the arrival of antibiotics that successfully dealt with a number of infections. Vaccines were developed that increased the human body's resistance to viral attacks diseases such as small-pox were eliminated through the extensive use of vaccines. The practice of vaccinating infants against a variety of diseases has had a pronounced positive impact on infant mortality. Recognition that good hygiene prevents

communicable diseases also helped. Improving the quality of drinking water played an important role in controlling cholera. There is great hope that a vaccine would be developed in the not too distant future to increase human resistance to COVID-19.

As is the case with most historical writings, discussions of pandemics in world history is mostly on what today is called the "developed world." This essentially refers Europe and the Middle East due to the contacts Europe had over time with that region of the world. Today's United States does not have much of a historical span covering its performance as a nation-state and rule by the white man. Michael S. Rosenwald of The Washington Post looked at the history of pandemics and referred to some of the classic works on the subject in particularly by the Yale historian Frank M. Snowden whose 'Epidemics and Society' has received a great deal of attention during this time - the time of the COVID-19 pandemic¹. In writing his brief overview in which he covered nine pandemics he also examined the writings in the magazine, "History Today" a journal that has published a number of articles on the subject. "The Novel Coronavirus has taken just a few months to sweep the globe," he writes in the opening paragraph of his short essay. "How many will die, how societies will change - those questions

are impossible to fathom as the disease rages. But history shows that past pandemics have reshaped societies in profound ways. Hundreds of millions of people have died. Empires have fallen. Governments have cracked. Generations have been annihilated²." This is the view of historians: that history cannot be - in fact should not be - written as it is evolving. Our work on COVID-19 challenges that approach; we are writing this while COVID-19 is still raging, taking thousands of lives every day.

The Rosenwald-account of the nine killers Pandemics begins with the Antonin Plague that raged for 15 years from AD 165-180 and probably led to the fall of the Roman Empire. This disease struck what is now Italy during the reign of Marcus Aurelius. While called "the Plague" - contemporaries used the word term as generic term to mean a disease that spread quickly and killed very large number of people - it was probably smallpox and measles. It got to the areas covered by the Roman Empire, carried by armies returning from expeditions in Asia. More than 2,000 people died daily. "The ancient world" one scholar wrote, "never recovered from the blow inflicted on it by the plague." The next on the Rosenwald list is the Justinian plague that had a role in spreading of Islam in the Roman domain. This was thought to be the first episode of bubonic plague. This took a toll of 30-50 million people in a brief period - AD, 541-542. It resulted in the withdrawal of the Romans from the east, leaving Constantinople in the hands of the Islamic invaders.

The next big pandemic on historians' list is the Black Death that hit London and some other parts of Europe in the five-year period between 1347 and 1352. It caused the death of an astounding 200 million people. That would be like wiping out the entire population of Pakistan. Some academics such as Ole J. Benedictow, a historian at the University of Oslo, found a reason for this calamity. This occurred because of the "characteristic features of medieval society in a dynamic phase of modernization

heralding the transformation from a medieval to early modern European society. There was rapid increase in world trade and all kinds of merchandise were carried long distances in big ships. "This system for long-distance trade was supplemented by a web of lively short and medium-distance trade that bound together populations all over the Old World," ushering in the "golden age of bacteria." Today we would call these exchanges resulting from globalization.

The next big pandemic was about 1,520 when explorers from northern parts of Europe arrived in the New World - today's United States - bringing all kinds of germs with them which the original inhabitants had never been exposed to and therefore had not developed immunity to them. The diseases that came with the settlers included smallpox and measles. They wiped out large proportions of the original populations. "Although we may never know the exact magnitudes of the depopulation, it is estimated that 80-95 percent of the Native American population was decimated within the first 100-150 years following 1492," according to a historian and demographer David Cook about 25 to 95 million people died.³

Plague returned to the British Capital in the form of the Great Plague of London that hit the city in 1665 and took up to 100,000 lives. Rats and flies were the cause and the poor were the victims. The rich escaped to the countryside. There was no treatment; if you caught it you had roughly two weeks to live. The world had to wait for a century and a half before the next pandemic came around. This time mosquitoes were to be blamed and they brought what, given the color of the skins of those who became sick, was called the Yellow Fever. One example of the toll taken by the disease was in a city in a more populated part of the United States. In 1793, the fever swept Philadelphia and killed an estimated 10 percent of the population. George Washington and Thomas Jefferson were in the city;

had the fever not broken out, they might have chosen Philadelphia as the nation's capital. The fever took 150,000 lives.

There were a series of cholera epidemics in various parts of the world and over long periods of time. Millions of lives were lost all over the world but it took science a long time to determine the cause of the disease. It was John Snow, a British physician, who was able to establish that the disease was caused by the consumption of contaminated water and that intrusion of fecal matter was usually the cause of water contamination. The conclusion was obvious: the state had to invest in providing good quality drinking water to their citizens. Whenever there was a break down in public services - which usually happened at war-times - cholera reappeared. This has happened in Yemen during the on-going civil war.

The COVID-19 pandemic has inspired comparisons to the 1918 flu epidemic that took more than 50 million lives in various parts of the world. The largest toll was in British India in which, according to historian David Arnold, 12-17 million are estimated to have died⁴. Whole communities were destroyed. Some economic historians have estimated a significant drop in area's agricultural output as there were not enough people to tend to the fields. It is sometimes called the "Spanish flu" not because it originated in Spain but because it coincided with the end of the first war in which Spain was a major player. The flu lasted for two years, 1918-20, and came in two waves. Even President Woodrow Wilson was ill with the disease. Epidemiologists believe that around 500 million people caught the flu and 50 million people died of the disease around the world.

In more recent times, there were serious flu epidemics; one epidemic in 1957-58 took a million lives. The virus causing it was identified as H2N2. The 2009 "Swine flu" caused by the virus H1N1

killed 200,000 people, mostly children and young adults. Both viruses were earlier versions of the coronavirus, one reason why the latest version is called "Novel Coronavirus." Older people were spared since they carried immunity from the Asian flu. In terms of the lives it would take, the COVID-19 pandemic is likely to reach the toll exacted by some of the earlier disease episodes⁵.

Orhan Pamuk, the Turkish author who won a Nobel Prize for fiction in 2006, turned the novelist's eye to understanding plagues and other pandemics. In a newspaper article he explained his reasons for reading important works of fiction that have been written over time to help him write fiction himself. He has been planning to do that for the last thirty years. He began writing such a novel four years ago. It was set in 1901 during what was known as the third plague pandemic, an outbreak of bubonic plague that killed millions of people in Asia but not very many in Europe. His working title for the book is 'Nights of Plague'. In researching the subject he has, to his great surprise, discovered similarities between the current COVID-19 pandemic and the historical plague and cholera. "The first response to the outbreak has always been denial. National and local governments have always been late to respond and have distorted facts and manipulated figures to deny the existence of the outbreak," he writes. He recalls Daniel Defoe's *A Journal of the Plague Year* in which he reported that local authorities of London to make the number of plague deaths appear lower than it was by registering other, invented diseases as the recorded cause of death. There was popular anger at this behavior of those who were in power. "Defoe's novel shows us that behind the endless remonstrance and boundless rage there also lies anger an anger at the fate, against divine will that witnesses and perhaps even condoles all, this death and human suffering, and a rage against the institutions of organized religion that seem unsure of how to deal with any of it," continued Pamuk. The most common rumors among the suffering populace

were about who had brought in and where it had come from. "Like evil itself, the plague was always portrayed as something that had come from outside. The disease is foreign and, it comes from outside, it is brought in with malicious intent. Marcus Aurelius blamed Christians in the Roman Empire for the Antonine smallpox plague, because they did not join the rituals to propitiate the Roman gods. During subsequent plagues Jews were accused of poisoning the wells both in the Ottoman Empire and Christian Europe."

Pamuk points out that we are not alone in our fear; we share it with the world. He reminded us of the old age about plagues and pandemics, that those who are afraid live longer. The novel that he is writing "would help think about Muslim Fatalism in the context of secularism and modernity." Even Daniel Defoe wrote in his London plague novel that "Turks and Mahometans professed predestinating notions, and of every Man's End being predetermined." Islam's belief in death being predetermined made the followers of faith adopt precautionary approaches towards the spread of contagious diseases. Close contacts among the pilgrims visiting Mecca and Medina spread all kinds of ailments. To deal with this situation, the British set up one of the world's leading quarantine offices in Alexandria, Egypt. It became a common belief in the Christian West that

the Muslim East was the origin of most pandemics. What at the end of Fyodor Dostoyevsky's *Crime and Punishment*, Raskolnikov dreams of a plague, he is speaking within same literary tradition. "We dreamed that the whole world was condemned to a terrible new strange plague that had come to Europe from the depths of Asia."

This brief overview of the past pandemics leads to a number of conclusions of which four are of particular importance for the making of public policy. One, the importance of hygiene. This is more than a personal matter; it involves investment and management by the state of public services. Two, related to the first underscores the importance of good governance not just in the developing world but also in more developed nations. Three, the importance of investing in pandemic-science. Both the state and private enterprises must stay one step ahead of what may strike their people by way of pandemics. Timely investments need to be made in establishing institutions that remain engaged in pandemic research. Fourth, the importance of globalization and health regulation. With international travel having become the norm, states must give greater attention to the health status of the people who cross borders.

Chapter

4

**How COVID-19 Pandemic
Arrived in Pakistan**

How COVID-19 Pandemic Arrived in Pakistan

Shahid Javed Burki

China is a big part of the COVID-19 epidemic story. To tell it fully will need a chapter much longer than the space available in a slim volume. I will divide the story into several parts, starting with the beginning of the pandemic in an industrial city in the center of the country and going on to briefly describe the approaches the government headed by President Xi Jinping's adopted to handle the pandemic. The pandemic had a major impact on China's relations with the United States but I will discuss this aspect of the COVID-19 story in a separate chapter. A short section in the chapter will discuss the rise of xenophobia in China and how that will affect Beijing's efforts to become a world leader. China's efforts to revive its economy will be discussed since this aspect of the COVID-19 experience in China is being watched by other countries as they too prepare themselves to open their shuttered economies. I will conclude the chapter with a short section on the presence of Shiite Islam in one part of China since it became the source of the transmission to other countries in which this sect of Islam had a large presence.

The Beginning

As briefly discussed in the introduction of this

report, the COVID-19 crisis started in Wuhan, an industrial city on the Yangtze River in the central part of China. The city has a number of large industries, some with heavy foreign investments by companies such as Honda and General Motors. It is an important part of the global supply-chain with lots of contacts with the outside world. There was a lot of foreign travel, to and from Wuhan before the pandemic arrived in the city. Initially even experts believed that some exotic animals sold in Wuhan's "Wet Market" carried the virus and because of food-consumption practices in the area, the virus entered the food chain. Large apartment buildings and a major train station close to the market contributed to the spread of the disease. That was a perfect setting for an outbreak. Several of the known cases clustered around the animal market. It is believed although evidence for that is still sketchy that COVID-19 originated with bats that somehow got into the food chain.

After much speculation, experts have settled on an explanation summarized by David Ignatius in a Washington Post article. He corresponded with Richard Elbright a microbiologist at Rutgers University, who believes that the first human infection could have occurred as a natural accident, or a laboratory accident. The latter could have

happened as accident in a laboratory where bat coronavirus was being studied. The British Magazine *Lancet* noted in a January study that the first COVID-19 case in Wuhan had no connection to the seafood market. "There's is a competing theory of an accidental lab release of bat coronavirus that scientists have been puzzling about for weeks," wrote Ignatius. Less than 300 yards from the seafood market is the Wuhan branch of the Chinese Center for Disease Control and Prevention. Researchers from that facility and the nearby Wuhan Institute of Virology have posted articles about from around China, for study to prevent future illness. Did one of those samples leak and enter the food chain'?

When I was working in China, as head of the World Bank's China operations, I was shown a food assembly plant in the south of the country but not in Wuhan which I also visited a number of times. Birds, mostly ducks, were kept in the top tier and pigs were in the plant's second level that consumed bird-droppings. Fish in the bottom rung ate the fecal matter produced by pigs. Fish were then sold in the markets for human consumption. That then was the origin of the disease called Avian or Bird Flu. The Chinese were not concerned by this way of producing food for human consumption since an effective vaccine had been developed that was administered every year at the start of the flu season. For Avian Flu, the origin of the disease is mostly of academic interest because of the developments of the vaccines. The flu virus also mutates but science keeps one step ahead, developing new vaccines that are given at the start of every flu year. For COVID-19, it is a different matter.

COVID-19 spread quickly in China since it appeared a few weeks before the start of the Chinese Lunar New Year when a large number of the country's citizens travel to visit their relatives across the country. This is China's most important holiday. About 7 million people more than half of the city's population left Wuhan for various destinations in the

country taking the disease with them if they happened to be infected. By then there were 363 known cases in Wuhan. The government in China initially ignored the spread of the virus perhaps not to scare foreign capital that might have flown out of the country at a difficult time for the Chinese economy. As the disease picked up, the government reversed course, recognized that the country faced a crisis and opted to lockout Wuhan and ultimately the entire province of Hubei in which the capital city is located.

The Chinese took time to tell the world about what was happening in their country. On December 31, 2019 they alerted the WHO, about the appearance of a new virus but released a reassurance that the disease was "preventable and controllable." On January 21, three weeks later, Chinese officials finally acknowledged the risk of human-to-human transmission but by then local outbreaks were already seeded in large cities such as Beijing, Shanghai, and Shenzhen. After the first case was reported in Wuhan in December, the virus quickly spread to more than 300 cities in the country, infecting at least 80,000 people. China's decision to undertake a complete lockdown not only in Wuhan but also in Hubei province, was not to create a laboratory at which various ways of tackling the crisis could be tested. It was to create social distancing among human beings for it had been determined that the virus comes out of the mouth and travels a maximum distance of 6 feet before it perishes.

When the country decided to go for a complete lockdown, it made Wuhan a testing ground. Its progress was observed to see whether physical separation between people and limiting their movement were the way to deal with the situation. Even though the World Health Organization (WHO) was yet to classify the COVID-19 as a pandemic, dozens of experts from the organization and those from the United States and Europe arrived in the city

to study how the lockdown was working. President Trump, always looking for a scapegoat to blame for his own failings, singled out the WHO for siding with the Chinese in the way the latter had dealt with the COVID-19 crisis. On April 15, he ordered that the United States' contribution to WHO's budget be suspended pending a full enquiry.

Two quite different approaches were followed around the world in dealing with COVID-19: mitigation and suppression. The first focuses on dealing with the extreme cases that result from being infected by the virus. This requires timely and sometimes intensive intervention by the medical community. The second way is to adopt measures even extreme measures to suppress the spread of the disease. Most epidemiologists are of the view that mitigation is better than suppression. The first improves immunity for those who are healthy so when the second wave of the disease arrives as it is likely much of the population would be ready and able to deal with it. In the case of suppression, the population would succumb to the second wave. Mitigation for a year or two would also buy the time to develop a vaccine or vaccines.

Two models are being followed even when suppression is the preferred option. The first is to opt for a centralized approach in which even large countries are using the same way of dealing with the crisis. This is essentially what China eventually did and India decided to do in the program announced by that country's Prime Minister Narendra Modi on March 23, 2020. The United States decided to leave control to the states where different governors followed different approaches. The result of the latter way of handling the crisis was to create a great deal of confusion. As discussed in this report one consequence of the pandemic would be to redefine what is meant by "federalism".

China's lockdown of Wuhan and much of Hubei province was unprecedented. Flights and trains were

stopped, public transportation was suspended and businesses were shuttered -- not for days or weeks, but for two months. On March 10th 2020, more than two months after the lockdown started, President Xi visited the city. His visit was seen as a signal by local officials that ordinary life should soon resume. The next week, Wuhan reported zero new cases for the first time since the outbreak began. But some questions were raised about the Chinese claim that the draconian measures it adopted had stemmed the tide. A March 23 report from Caixin, a Chinese outlet that has done ground-breaking coverage of the crisis, found that the virus may still be spreading in the city. "There are still a few or a dozen asymptomatic people every day," an unidentified official at the Chinese Center for Diseases and Prevention was quoted by Caixin as saying. "It can't be determined whether transmission has been completely cut off²."

Wuhan, the city where the COVID-19 crisis began, became a laboratory for studying how the measures against the spread of the disease were making a progress. The city was locked down on January 23, 2020 and began to return to life about the end of March. Despite its gradual reopening, the city was far from normal. According to officials, 2,535 people died while about 2,500 remained hospitalized. "They are trying to turn the industrial engines back on as quickly as they can," said Ryan Hass, a China expert at the Brookings Institution. "But it's a bit of a challenge because 60 percent of the Chinese economy is in the service sector. And even if they wanted people to go to the movie theaters and restaurants now, I don't think there is a lot of demand." According to one newspaper account, "China's leaders say the country has largely won the battle against the outbreak, reporting each day that domestic transmissions are negligible or non-existent. The gradual opening of parts of Hubei province - the provincial capital - is a testament to that³." In fact, the Chinese state began to worry about a possible second wave. The U-turn was accompanied by other sudden changes including a ban on

foreigners entering the country and limited inbound flights for Chinese nationals. The number of flights arriving in the country was less than 2 percent of the normal.

On April 17, the Chinese government issued new estimates of the toll taken by COVID-19 in the country as well as in the city of Wuhan. Nationwide China reported 83,760 cases and 4,636 deaths. The assessment for Wuhan counted 1,290 more deaths, bringing the death toll in the city to 3,869. By that time, the death toll in the United States was ten times the figure released by the Chinese authorities. The Chinese revision came amid global efforts to clean up the data. Policymakers must have a good idea how the economies were hurt by the pandemic and how much damage was done to the health systems. Jude Blanchette, who led the China studies program at the Washington-based Center for International Studies, did not view the Chinese revisions as coincidental with international skepticism over how the relatively low death rate compared with other hot spots around the world⁴.

China came to the rescue of the United States by sending plane with loads of supplies. First of the 22 airlifts of medical equipment arrived in New York on March 29. The plane brought in 1.8 million facemasks, a small part of the 3.5 billion needed by hospitals across the country. "China has abundant protective equipment now, and the rest of the world has a huge shortage," said James McGregor, the chairman of greater China for APCO Worldwide. "The shipment from China that arrived in New York on Sunday is the product of a public-private partnership - led by Jared Kushner, President Trump's son-in-law and senior adviser. He said he was working with major health care distributors like McKesson Corporation, Cardinal Health, Owens and Minor, Medline and Henry Schein. Not all the supplies will come from China. The United States was working with manufactures from a number of other countries spread over the entire world. In the private sector,

wealthy individuals with good connections to China saw good business opportunities and stepped in to buy and distribute health supplies to various parts of the United States. Although Jared Kushner was not in private business as he held the position of senior advice to the president, he too favored the involvement of the private sector⁵.

On April 8 2020, China ended its lockdown of Wuhan but the city which opened more than 10 weeks after having totally closed down, was a profoundly damaged one, a place whose recovery will be watched for lessons on how populations move past pain and calamity of such staggering magnitude. Many external experts saw the Chinese handling of Wuhan as an extreme step that could be followed only in an authoritarian system. While people were allowed to leave the city and the province in which it is located - and tens of thousands did precisely that - the psychological impact of the lockdown remained. Reporters from The New York Times visited the city and wrote that "many people in Wuhan do not need to be told to keep isolating themselves, to say nothing about leaving the city. The experience of death and near-death had left psychic wounds. Of China's more than 80,000 reported cases of the virus, two-thirds have been in Wuhan." The reporters met with and interviewed a number of business owners in the city, and found that for "many small businesses, the loss of business could lead to more trouble. Short on cash, companies that laid off workers may not be able to rehire them right away⁶." They were looking for government's help. This experience will be repeated in other places that will need to deal with similar problems.

China's efforts to reopen its economy were watched with great interest by the world, in particular by the United States where President Donald Trump was anxious to get his country's economy working again. He had correctly concluded that his reelection in November 2020 depended on how well the economy

was doing at that time. How and when to open the economy became an important issue - one that was taken up almost every day in the briefings President Trump provided to the press from the White House. The president favored an early opening making it a "big-bang" while his health advisers in particular the highly respected Dr. Anthony Fauci were in favor of taking more time and doing it gradually. Several state governors were similarly inclined. According to Eva Dou, reporting for The Washington Post, "Beijing's priority is to restart manufacturing, with the service sector a secondary concern. But even for factories lucky enough to have the green light, many had to begin production in semi-lockdown, with workers forbidden to leave campus without permission." David Levine, a professor of business administration at the University of California at Berkeley, said the companies world-wide will need effective protocols to avoid new outbreaks, but also to market their products to wary customers. "Manufacturers are going to have to convince customers of the safety of their products," he said. "You need procedures in place." That is precisely what very large firms such as Foxconn that assembles iPhones parts imported from several countries are doing. The firm must begin to work to produce the phone expected to be launched in September 2020. Chinese telecom giant Huawei issued a 73-page manual with detailed protocols, which required all employees to submit and dial a health report that would be widely read⁷.

Before concluding the discussion of China and how it became the initial source of the spread of coronavirus, we need to briefly examine the arrival of Shiite Islam to the southeastern part of the country. While, Islam had a large presence in some of the western provinces of China in Xinjiang, for instance, Muslims accounted for 40 percent of the region's population Islam had also become important in the southeastern parts of the country. Shiite Islam had thrown fairly deep roots in this part of China. This happened overtime and the communi-

ties that Muslims formed in this part of the country included the followers of the Ismaili sect. The members of this branch of Islam had strong affinity with Iran, the source of their sect. Hundreds of them visited various Shiite shrines in Iran and from there pilgrims went to some holy sites for the sect such as Qom and Mashed, both in Iran. In 2019, some of those who went there were infected with coronavirus. It was in these sites that the members of the Pakistani and Indian Shiite communities came into contact with the people from China who were infected with the virus. This was also the source of transmission for the Afghans who also have a Shiite community - the Hazaras - that have religious connections with Iran. A fairly large number of Afghan refugees in Iran were from the Shiite Hazara community in Afghanistan.

Thus, Iran after China become the second home of coronavirus. Iran's involvement in the spread of the virus and of COVID-19 the disease associated with it had many dimensions. It underscored the adverse consequences of long-distance pilgrimage in a world where easy travel makes possible the transmission of lethal diseases. Since, Pakistan shares a fairly long and not well-regulated border with the Iran, the spread of COVID-19 was bound to affect relations between the two countries. Iran was already unsettled before the arrival of coronavirus, with the pandemic bringing even more financial stresses on the country, Tehran's moves had consequences for the Middle East.

The COVID-19 pandemic and response to it by several countries to contain its spread affected relations among them. The United States-Iran relations that had soured after President Donald Trump took office in Washington presented an interesting case study of the clash within Washington's policy circles regarding Iran when humanitarian considerations resulting from the spread of COVID-19 needed to be factored into the equation. The United States sanctions launched after

Trump became president had devastated the Iranian economy and in response Iranian-backed militias had carried out attacks on U.S. troops in neighboring Iraq. By the time the American president realized that COVID-19 posed a real health and economic threat not only to his country also but to the world at large. Iran was one of the most seriously affected countries. For Iran, China was the initial source of the virus.

China and Iran have fairly close economic relations. Tehran, in spite of the sanctions imposed by the United States on the sale of Iranian oil to the world, remained an important customer. Beijing found ways to finance Iran for the purchases it made. It also had the intention of incorporating Iran in the Belt and Road Initiative, the signature infrastructure-building program of President Xi Jinping launched with much fanfare by the Chinese leader in 2013.

In the fairly significant case of COVID-19 infection in Iran some among the senior leadership ranks of the United States saw an opportunity to move against Tehran's presence in Iraq. Secretary of State Mike Pompeo and Robert C. O'Brien, both Iran hawks, pushed for aggressive new action against Iran and its proxy forces in Iraq. According to Mark Mazzetti and Eric Schmitt, two seasoned reporters working for The New York Times, these two American policymakers saw an "opportunity to try to destroy Iranian-backed militia groups in Iraq as leaders in Iran were distracted by the pandemic crisis in their country." The militia group, Khatab Hezbollah was the focus of attention. But this effort did not have the support of the people in charge of defense matters. "Military leaders, including Defense Secretary Mark T. Esper and Gen. Mark A. Milley, the Chairman of the Joint Chiefs of Staff, have been wary of a sharp military escalation, warning that it could destabilize the Middle East at a time when President Trump has said he hopes to reduce the number of American troops in the region. Still, American officials said that Mr. Esper

authorized planning for a new campaign against Iraq -- even as the military reduced its counter-terrorism presence there --to provide options for Mr. Trump in the event that Iranian-backed militia groups escalate their own attacks against American troops⁸." This discussion factored in the situation created by the spread of COVID-19. There were growing concerns about the spread of the disease in the forces, potentially threatening the military's ability to field combat ready troops. "Beyond that, it would most likely put the Iraqi leadership and especially its military in the position of having to choose between its American allies -- whose leaders are far away and the Iranians whom many senior Iraqi do not like but believe they have to live with because they are neighbors⁹."

Liberals in the United States were troubled by the talk of squeezing Iran at a time when coronavirus was taking a heavy toll in the country. "Iran is in terrible shape. It is among the countries worst hit by the coronavirus - more than 27,000 documented cases to date, " wrote The New York Times in an editorial published on March 26. "Sanctions have choked its economy. Tensions with Washington remain high and the government is incompetent. Does that mean the United States should tighten sanctions further in the hope that the 'maximum pressure' strategy will compel Tehran to toe Washington's line? Or should it loosen sanctions to help Iranians and show them that America's argument is not with the people?" For the newspaper, the answer to these two questions was obvious. "Demonstrating compassion in times of crisis is a good foreign policy, and in this case, it may actually help to achieve the goals the Trump administration is pursuing." But compassion was not an important element in the American president's thinking and view of the world. That was also the case with his close advisers. In mid-March, the Trump administration tightened its sanctions as they applied to Iran, blacklisting several companies around the world for 'significant transactions' in

petrochemical products. Treasury Secretary Steven Mnuchin issued a statement stressing that the United States would continue to target those who support the regime in Tehran even as it "remains committed to facilitating humanitarian trade and assistance in support of the Iranian people." According to The New York Times in the above cited editorial, "such arguments are specious in these terrible times."

On April 6, two-dozen former diplomats and national security leaders from the United States and Europe called on the Trump administration to ease sanctions against Iran as part of the battle against the coronavirus pandemic. Those signing the appeal included former secretary of state Madeleine Albright, two former defense secretaries and several former high-level officials, some of who were involved with negotiating the 2015 Iran nuclear deal. "Just as the COVID-19 pandemic has upended every aspect of global economy and human lives and health, it has drastically changed the impact of a U.S. policy designed for different purposes and conditions," said their statement. "Just because Iran has managed the crisis badly, that does not make its humanitarian needs and our security ones any less. Targeted sanctions relief would be both morally right and serve the health and security interests of the United States, Europe and the rest of the world."

The statement was issued when more than 60,000 people were reported to be infected in Iran with the virus and at least 3,700 had died. The statement and the proposals made in it were the work of two groups - the Iran Project, a U.S. organization working to foster dialogue between the United States and Iran; and the European Leadership Network, a London-based group of leaders seeing practical solutions to political and security challenges¹⁰. The appeal was ignored by the Trump administration. Popular opinion in the United States about Iran and the Iranian immigrants was not favorable, a conclusion reached in an edited collection of essays written mostly by the members of the fairly large diaspora in

America¹¹.

Iran appealed to the IMF for \$5 billion in emergency funding and for providing a long list of essential equipment ranging from gloves and masks to portable respirators. The Trump administration promised to help but with conditions it knew would not be acceptable to the clerics in Tehran. "There should not be quid pro quo which Mr. Trump is so fond of demanding -- humanitarian aid should be without strings -- but American generosity might be the best way of persuading Iran to release American and other foreign detainees," wrote The New York Times in an editorial¹². Despite America's well-earned history as a melting pot, many immigrants were not welcomed. Among them were Iranians. Although they began to arrive in the 1920s, there was a sharp increase after the Islamic Revolution of 1979 when power in Tehran passed into the hands of clerics. "Iran is now experiencing one of the world's severe coronavirus epidemics, but because of the continued refusal to see that country beyond our mutual political hostilities, the human stories remain largely unheard," wrote Rachel Newcomb in her review of the above cited book. "The narratives in this collection go a long way toward making Iranian American immigrants visible. Offering familiar stories with a distinctive flavor *My Shadow Is My Skin* deftly explores mixed feeling of pride and love, and dislocation and criticism, for both the lost homeland and the country to which the emigrant Iranians had moved. Writing in *Foreign Policy* magazine, Robert Malley and Ali Vaez of the International Crisis Group argued that in the coronavirus crisis, desperate hardliners in Tehran might take even more dangerous risks¹³. This was also the sentiment expressed by Gen. Kenneth McKenzie, head of the U.S. military's Central Command who told Congress in early March that the outbreak of the virus crisis makes the hardliners in terms of decision making more dangerous rather than less dangerous.

In examining how the world has reacted to the

spread of COVID-19, it would be appropriate to deal with some of the countries as belonging to one particularly sensitive region. Although what is the Middle East region is not quite defined, it usually refers to the cluster of countries belonging to the Arab World. They are not always in harmony as they deal with one another or with the world outside. That notwithstanding, they have strong links with one another because of religion, use of large revenues from the sale of oil, the movement of people into the area from the populous countries on the region's periphery, and being the destination of large-scale pilgrimage that brings millions of outsiders. The COVID-19 has disrupted all these links. "There's a series of cascading crises which ultimately feed into one another, and interconnected web of catastrophes," Jon Alterman of the Center of Strategic and International Studies quoted in a story in *The Washington Post*¹⁴. These countries are not facing one; they are facing two or three crises simultaneously. Take the issue of mosque-attendance. As Raza Arsalan pointed out in his book, *There is no god, but God*, Islam is a community religion that is constantly renewed by people coming together not only for five prayers a day but for also social functions¹⁵. However the clerics of Al Azhar mosque regarded as the custodians of formal Islam issued a fatwa according to which mosque attendance could be dispensed with in situations such as the one created by the coronavirus epidemic. The fatwa was followed to some extent but was ignored by some of the more conservative elements in the Muslim world. That said, prayers were cancelled, festivals and pilgrimages were called off, the Al Aqsa Mosque in Jerusalem, the Church of Nativity in Bethlehem, and the Shiite Muslim shrine in Karbala, Iraq were among the sites that were closed.

Because of the collapse in the price of oil which was the result not only due to the slowdown in the global economy but also due to the differences between Saudi Arabia and Russia on oil policy, the Middle East was bound to go soon into a deep recession.

Labor-exporting countries such as Pakistan, India, Bangladesh and Egypt will see a sharp drop in the flow of external finance. Pakistan will be hurt in particular since it has to cover a large gap in external finances.

Wars in the Middle East have displaced millions of people; some of them have managed to find their way into Europe but most have landed into crowded refugee camps. Many of the region's authorities are notoriously opaque and there are widespread suspicions that some countries are not acknowledging the scale of their problems. The realization that the Iranian government was not entirely open about the toll exacted by the virus spread has spooked countries with large Shiite populations that visit sites in Iran as pilgrims. Initial cases of coronavirus infections in Iran's neighbors, Afghanistan and Pakistan was the result of infected pilgrims returning from holy sites in Iraq and Iran.

Although Iran, a majority Shiite country does not follow the advice of the religious leaders located in Egypt's Al Azhar Mosque, its own ulema seemed to have responded positively to the suggestion that some of the religious practices could be dispensed with, especially those that brought people close together. Under pressure from religious institutions, Tehran announced that it would reopen 127 religious-sites including shrines and mosques. The country would be divided into white, yellow and red regions based on the number of infections and deaths, with those labeled "red" identified as the most affected. By April 25, the toll rose to 90,481 affected cases and 5,710 dead. "Iran is still in the escalation trajectory of contracting COVID-19 and reaching the peak," said Hossein Erfani, the Health Ministry's head of infectious disease.

Religion played a part: it is believed that the virus was brought into the country by Shiite pilgrims from Pakistan, a lot from Karachi which became the epicenter of the disease in the country. Members of

the Tablighi Jamaat were another source of COVID-19 in both India and Pakistan. They had been to Malaysia where the Jamaat had held a large gathering at which a number of attendees picked up the disease and brought it back to their countries. However, these contacts notwithstanding, COVID-19 would have arrived from other sources. There are

large Pakistani communities in the United States and Europe whose members frequently travel to Pakistan. Both areas were to become epicenters of the disease.

Chapter

5

**Analyses of the
Government's Performance:
COVID-19 Impacts**

Analyses of the Government's Performance: COVID-19 Impacts

Shahid Najam & Kainat Shakil

Introduction

The COVID-19 pandemic has caused havoc and disruption all across the world which has gone much beyond the health calamity to become a systemic human development crisis. It has profoundly impacted all spheres of human activity e.g. economic, social, political and cultural. Initially suspected to be pneumonia in Wuhan, Hubei province of China, the disease was characterized and identified as COVID-19 in early January, 2020. Thailand became the first foreign country to report its incidence as the virus was detected in a recent traveler from China. The international travel in and out of China precipitated the wide spread of the virus to other regions. On January 30, 2020, the Director-General of the World Health Organization (WHO), declared the outbreak of COVID-19 to be a 'Public Health Emergency of International Concern' and less than two months later, WHO on March 11, 2020 declared the virus as a pandemic¹. As of October 15, 2020, globally there were 38,154,124 confirmed COVID-19 cases with more than one million deaths (1,084,022). Countries have since taken a range of measures with varying degrees of resolve to curb the spread of the disease including economic lockdowns, borders' closure, disruption in trade, transit and commerce and supply chains both domestically and internationally, strict quarantine and restrictions on movement and

mobility of people and goods. The pandemic, however, continues to pose ominous challenge to human life, public health, food systems and the world of work.

COVID-19 and the Government's Response in Pakistan

Pakistan was among one of the worst affected countries with 16th highest number of confirmed cases in the world, 6th highest number of such cases in Asia and the 3rd highest in South Asia after India and Bangladesh during the peak period between June and July. The country confirmed on 26 February² 2020 its first two cases of the COVID-19 followed by a steady increase in the active cases. The outbreak reached a peak of 6,825 recorded new daily cases on 13 June. The situation, however, stabilized by late June 2020 and registered a significant downward trend in the month of July with considerable improvement in the recovery rate reaching 95.2 percent on 28 September. Figure 5.1 depicts the COVID-19 status in Pakistan as of April³ 2020.

The fatality rate in Pakistan is 2.1 percent comparable to the average Asian Countries (2.03 percent) but considerably lower than the world average of around

3.4 percent.

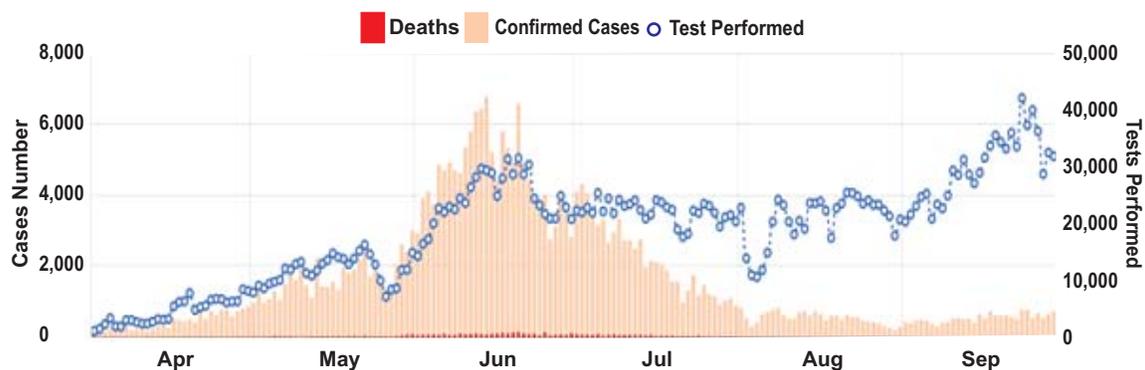
Tablighi Jamaat congregation².

While, the pandemic curve seems to have flattened and Pakistan's performance in containing the COVID-19 has been incredibly impressive, there

By 17 October, there were a total of 322,452 confirmed COVID-19 cases and 6,638 deaths in the country as is evident from Figure 5.2 below. The

Figure 5.1

COVID-19 Status in Pakistan



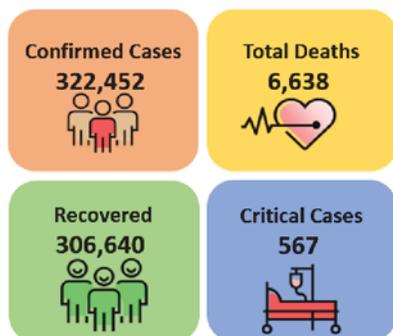
Source: covid.gov.pk

was initially a lack of clarity and will on the part of the government to deal with the burgeoning threat. The government gave into the Ulema's demand of keeping mosques open including permission to hold the religious congregation of Tablighi Jamaat. Pakistan was the only Muslim country in the world which did not close down the mosques while the most sacred religious sites i.e., Mecca, Masjid-e-Nabwi and Baitul Maqdas were all closed. The situation with regards to the religious congregation was so grave that as of late April 2020, 27 percent of total positive cases in the country originated from

pandemic in the country is concentrated in the large urban areas like Karachi (around cases 30 percent of all confirmed cases), Lahore (17 percent of the cases), Peshawar (13 percent) and Islamabad Capital Territory (5.3 percent)³.

FIGURE: 5.2

Pakistan Statistics



Source: covid.gov.pk

It will be seen from the above that Khyber Pakhtunkhwa (KPK) has the maximum toll of 3.4 percent deaths while in Baluchistan the figure is only 1.2 percent against the national average of 2.07 percent. According to Corona Tracker, Pakistan's fatality rate is 2.1 percent. This figure was last updated on October 9, 2020. The 96 percent recovery rate as of 17th September of the virus patients in itself speaks of the success of the curative part of the government strategy.

The loss to the economy due to the pandemic is estimated up to US\$5 billion. The Asian Development Bank in April, 2020 lowered the projected growth rate to 2.6 percent from State Banks estimates of 3 percent while the World Bank reduced it to mere 1.1 percent⁴. The government, however, anticipates (July, 2020) the growth rate be to be -0.4

percent.

Response of the Government

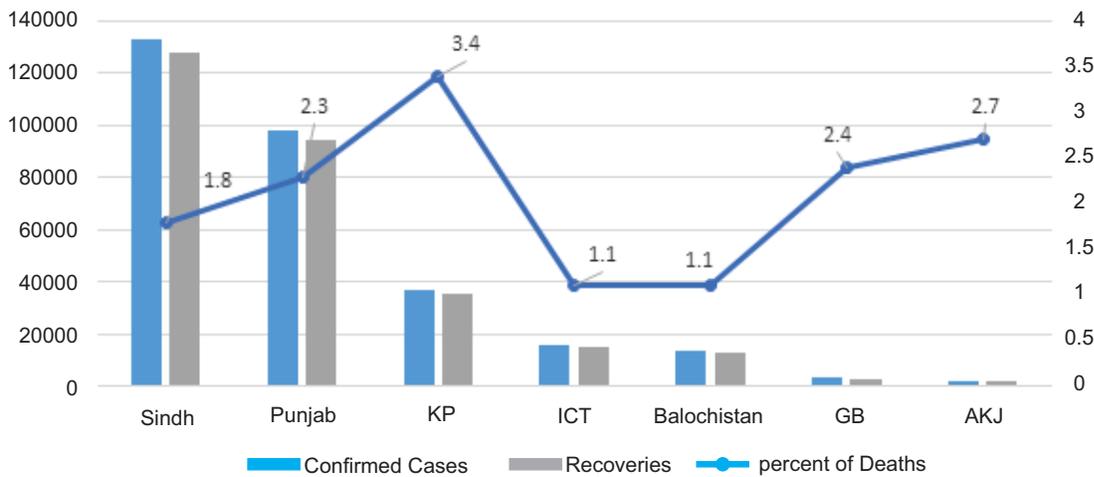
The government established the National Coordination Committee on COVID-19 under the Prime Minister as a decision-making body to deal with the COVID-19 pandemic. A National Command and

such as virus detection, establishment of treatment centers, procurement of necessary equipment, data gathering, inter-ministerial coordination, awareness and information campaigns, formulation of Standardized Operating Procedures (SOPs) and an emergency fund.

Though not optimal, an integrated blend of

FIGURE: 5.3

COVID-19 in Pakistan Summary



Source: covid.gov.pk

Operation Centre (NCO) was also created to serve as one-window facility and articulate unified and coordinated effort against the pandemic. The NCO benefits from the input provided by all the provinces, Azad Jammu and Kashmir (AJ&K), Gilgit Baltistan (GB) and Islamabad Capital Territory (ICT). It has also instituted a Resource Management System for health resource mapping (currently spans about, 4,000 COVID/non-COVID hospitals); Integrated Disease Information Management System as the national repository for all COVID-19 related data and data analytics; and a National Helpline - 1166 for healthcare workers. The government also launched a multi-pronged “National Action Plan for The Corona Virus Disease Pakistan.” Unfortunately, there was a lapse of almost one month after COVID-19 pandemic had already exerted its toll in the country. The Plan, inter alia, comprised components

lockdowns, testing, contact tracing, quarantine and communication and awareness to induce both voluntary and enforced behavioral changes such as wearing surgical masks, keeping social distance and frequent washing of hands have been implemented under the Plan. Besides, the government also management, disease surveillance and laboratory testing capacity, community mobilization and sensitization.

Below is the brief description of the government's response measures:

Lockdown: There was initially a state of ambivalence and discord within and between the federal and provincial governments as to the nature and duration of lockdown. It was primarily due to the difficult choice between savings lives and livelihood

and far reaching economic ramifications given the fragility of Pakistan's economy. In due course, however, the federal government, in consultation with the provincial tiers, evolved a well concerted policy guidelines that seem to have been followed consensually to enforce lockdowns in various forms:

Complete Lockdown: The complete lockdown varied slightly in Pakistan as each province decided its own date to start and lift it. It was around 23 March, 2020 that the Federal Government imposed a complete lockdown for 2-3 weeks with the exception of essential services e.g. banks, food factories, medical stores and grocery shops under restrictive hours. On March 29, however, government opened the highways and roads across the country to ensure smooth transportation of goods and increased the number of freight trains to avert a shortage of food, maintain food supply chain and other essential supplies. With the rapid surge in the virus cases, the lockdown was periodically extended. It may be noted that the Government of Sindh was the first to enforce lockdown in early March with stringent measures for 14 days effective 23 March. In fact, the first case of COVID-19 in Pakistan was, “reported from Karachi on February 26, 2020 and to contain and curb further spread of the disease a provincial lock down was instituted on March 23, 2020.” It is worth mentioning that the lock down in Karachi, affected the provision of health services including immunization. KPK, Baluchistan, Punjab, Azad Jammu Kashmir (AJK), Gilgit Baltistan governments and Islamabad Capital Territory Administration more or less followed the instructions of the National Coordination Committee for COVID-19 and implemented a milder form of lockdown.

Smart Lockdown: Under Federal directive on 9 May, the nation-wide lockdown came to an end and replaced by 'smart lock down' to seal and restrain movement only in the areas that show cluster of

COVID-19 cases. Targeted tracking, tracing, testing and quarantine mechanism was implemented while easing restrictions on economic activities under safety guidelines and SOPs. By August 10, the economy was gradually reopened allowing movements both internally and internationally resuming retail activities.

Micro-Lockdown: With a considerable decrease in the COVID-19 incidence as evidenced by a decline in positive coronavirus tests from 20 percent to 12 percent by 28 August⁵, the government adopted a micro-lockdown approach which is much smaller in scale, localized, limited to streets, small neighborhoods or multiple units in a building. It is self-regulated and community-based and follows a modular structure while ensuring strict observance of SOPs. The infected areas and clusters in Lahore, Rawalpindi, Sialkot, Gujrat, Gujranwala and Attock were subjected to micro-lockdowns⁶ and later on September 30 in Karachi in specific cluster areas allowing only one person per family to go out for daily essentials and with rigorous enforcement of SOPs.

Health Sector Related Interventions

As a result of decades of neglect, the health infrastructure was ill prepared and not equipped to deal with the magnitude of the pandemic. However, government moved steadily to amongst other things, adopt the following measures:

- Over 735 hospitals across the country were equipped with a capacity of more than 118,000 beds to treat the patients as of the day. The Pakistan Army set up a 10,000-bed field hospital at Karachi's Expo Centre to isolate and treat confirmed patients. Quarantine facilities were also established in Sukkar, DG Khan and Faisalabad and later, a large quarantine center of 3,000 rooms was established in Multan with an attached 50 bed hospital to isolate the returning

pilgrims from Iran and elsewhere.

- The Government decided to screen all the passengers returning from China at the four major airports of Islamabad, Karachi, Lahore and Peshawar and of domestic passengers at Karachi. The Railways services of 42 trains were also suspended. The borders with Afghanistan (partially opened after 21 March), Iran and China were also shut between 2 and 16 March.
- The National Institute of Virology, Karachi and the National University of Science and Technology (NUST) developed the local testing kits towards the end of March and handed to the Drug Regulatory Authority of Pakistan (DRAP) for a final approval. The Pakistan Engineering Council (PEC), University of Engineering and Technology (NED) and Pakistan Engineering Board (PEB) together developed locally manufactured ventilators. The capacity of Pakistan Council of Scientific and Industrial Research (PCSIR) was also enhanced for production of hand sanitizers⁷. Academia, researchers and medical experts in Sindh were encouraged for plasma trials which worked quite effectively for a number of patients. The Punjab University manufactured coronavirus protection kits, hand sanitizers, disinfectants and antiseptic wet-tissues for the public. District level training of high-dependency unit, isolation and quarantine staff was also initiated in Punjab. The clinical trials of the vaccine manufactured by China on around 20 million people were also approved⁸.
- A special compensation package for the healthcare professionals who died while treating coronavirus patients was announced together with a grant of Rs.100-billion as Emergency Relief Fund to combat the pandemic. An amount of Rs. 50 billion (\$298.94 million) was allocated to purchase medical equipment besides enhancing Pakistan's testing capacity from 30,000 up to 900,000.
- The Alibaba Group of China donated critical medical supplies e.g. 500,000 surgical mask including N95 masks, 50,000 test kits, ventilators and Personal Protective Equipment (PPEs) worth Rs. 67 million to the province of Sindh⁹.
- The provincial government contributed their own resources to address the health sector capacity deficit e.g, Sindh earmarked Rs 8 billion for the district hospitals. Punjab pledged Rs 11.5 billion to support the health sector and the Provincial Disaster Management Authority (PDMA), acquired (though modest) testing equipment and PPE, and allocated Rs. 620 million to establish eight new diagnostic labs at divisional level to speed up testing process. The KPK government, in conjunction with the National Institute of Health (NIH) deputed screening teams at entry and exit points of the districts, expedited hiring of 1,300 new doctors to meet with staff shortage, ramped up its testing capacity with 500 new diagnostics kits and equipped the district hospitals with the necessary supplies including oxygen concentrators, cardiac monitors, infusion pumps, dialysis catheter and additional PPEs; provided through the KPK Provincial Disaster Management Authority (PDMA). Around 70,000 N95 masks were provided to departments involved in the fight against coronavirus. An estimated 8,000 surgical kits and caps were also supplied to the health departments, along with 750 liters of sanitizers and 5,000 testing kits. The Baluchistan government constituted a 14-member technical committee in January to address the potential spread of the pandemic; declared health emergency in the province and established a quarantine center in Taftan to host some of the first COVID-19 cases coming in from Iran. In the absence of PPE for the medical staff, the first wave of the pandemic during March struck the doctors and

paramedical staff in Quetta who refused to work with patients until PPE was provided. This prompted the Federal and Provincial governments to arrange PPEs and necessary equipment for the designated hospitals in the province.

- The Gilgit Baltistan (GB) government declared medical emergency on March 13 and tested all returnees from Taftan for COVID-19. The Chinese government provided essential medical equipment and ten tons of other goods to the GB on March 27 which included five ventilators, 2,000 N95 masks, 200,000 face masks, 2,000 testing kits in addition to medical protective kits. The AJK government proactively installed on 14th March the screening mechanisms at all 11 points of entry in the territory and established quarantine facilities in all the 10 districts of AJK though the first case was reported on 18th March. The two virology labs at Abbas Institute of Medical Sciences in Muzaffarabad were also equipped to start tests for COVID-19 on March 30. The (ICT) successfully imposed lockdowns and a set of measures in virus hotspots which yielded considerable benefits within just two weeks of implementation of Test, Trace and Quarantine strategy¹⁰. Despite all these precautions, during the post- Eidul Fitr period, it became the worst afflicted area in the country.

The Relief Package and Assistance

The Government of Pakistan announced a PKR 1.13 trillion (US\$6.76 billion) rescue and stimulus package with an impressive balance between direct assistance to the poor and support to industry and businesses that included:

- An amount of Rs. 150 billion for low-income groups, particularly daily wage earners; enhancement of the monthly stipend of the Benazir Income Support Program (BISP) from Rs. 2,000 to Rs. 3,000 to cover expanded number

of needy beyond the 5.2 million BISP beneficiaries based on National Socio-Economic Registry (NSER) data. This also included those on the margins of hunger e.g street vendors, rickshaw drivers and laborers on daily wages.

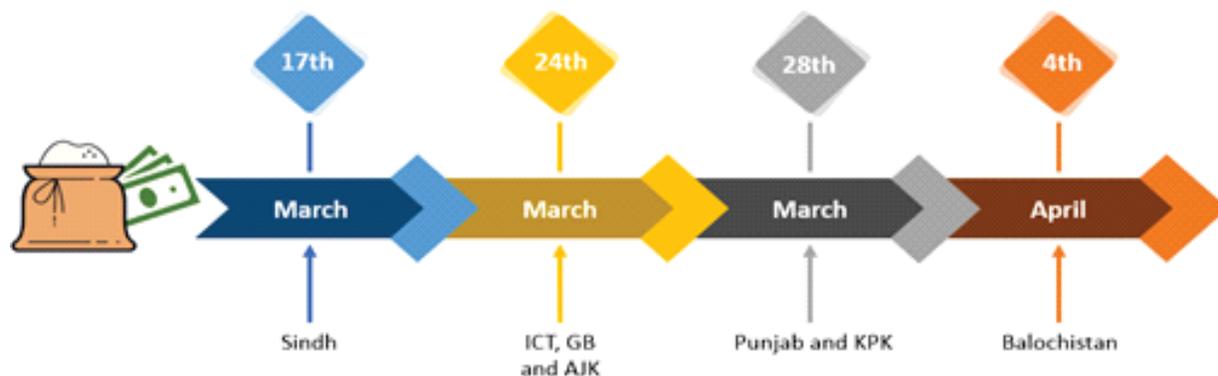
- The Ehsaas Emergency Fund provided cash assistance of Rs. 12,000 to 12 million poor families for four months as a one-time dispensation through designated banks or in two instalments of Rs. 6,000 each.
- The economic stimulus package of an amount of Rs. 100 billion rupees for support to small industries and the agriculture sector was given. A whole range of fiscal measures including tax breaks, temporary deferment of the interest payments on loans to protect exporters and businesses; significant reduction in petroleum prices; and deferment of payment of electricity and gas bills below a certain amount.
- Temporary Economic Refinance Facility (TERF) by State Bank was provided to fuel new investments. Subsidized loans were specified for the manufacturing sector. The Refinance Facility allowed banks to get loans at zero mark-up, that they could offer to hospitals at 3 percent for 5 years. The interest rate was also reduced to 7 percent.
- The provincial government also announced their emergency relief packages to mitigate the economic sufferings of the vulnerable segments of the society. Sindh launched a mobile service to provide basic groceries such as foodstuff (rations) and introduced “the Sindh Relief Initiative” to involve welfare organizations for the distribution of rations among daily-wagers at their doorstep. Punjab announced Rs. 10 billion relief package and the Chief Minister Insaaf Imdaad Program (CMIP) supported around 2.5 million daily wagers and the poor (excluding

BISP beneficiaries) with Rs. 4000 cash assistance and allocated Zakat funds of Rs 870 million to assist around 170,000 additional families. A

primarily to strengthen the health care system, improve access to education, mitigate socio-economic disruptions and augment the social safety

FIGURE: 5.4

Aid Packages Timeline



Source: Developed by BIPP's team

relief package for media workers was also initiated, according to which Rs. 1 million would be paid to any journalist's family who died due to COVID-19. In addition to that if he was survived by a widow, she would get Rs. 10,000 as monthly pension for life. KPK government approved a loan of Rs. 32 billion for the masses and the business community, Rs 11.4 billion to benefit 1.9 million deserving families with cash of Rs 2,000 to top up the Ehsaas program assistance. Business community was also exempted from taxes worth Rs 5 billion. The Baluchistan government announced a tax relief of Rs. 1.5 billion to mitigate the economic impact of the pandemic.

At the same time, the government sought financial assistance from the international donors including waiver of the loans to deal with the resource constraints in combating COVID-19. Additional loan of US\$3.7 billion was borrowed from three multilateral creditors including a loan of US\$1.4 billion from the International Monetary Fund (IMF), US\$1 billion from the World Bank and US\$1.25 billion from the Asian Development Bank (ADB)

nets. (See Figure 5.4)

Pakistan is also participating in the Global Humanitarian Response Plan (GHRP) 2020 with a total funding requirement of US\$126.82 million to assist around 5.46 million most needy people affected by the COVID-19 pandemic¹¹.

Food Supplies and Nutritional Requirement

In order to ensure a food security, the government contemplated temporary abolition of all taxes on food items and allocated a sum of Rs. 50 billion (US\$298.94 million) for government-run utility stores to ensure the availability of food and other essentials at subsidized rates. A sum of Rs. 280 billion was earmarked for wheat procurement to help wheat farmers besides augmenting NDMA's logistics support to ensure food supplies.

Communication and Awareness

The government eventually managed to unleash an effective communication campaign primarily

through use of smart technology to create awareness amongst the masses, mitigate the risks, prevent panic and scare of COVID-19. The telecommunication industry and media encouraged people to adopt the preventive SOPs. The government established easy to access and extremely informative websites of the related agencies (Ministry of Health, NCOC, etc.) to ensure transparency of its efforts, inform the people of the availability of health services and relay constant preventive messages. An application called COVID-19 Care for Media was launched to help the infected journalists besides providing the testing kits to those covering COVID-19.

COVID-19 pandemic was and continues to be an unprecedented challenge for Pakistan. The government so far has managed it remarkably well which has been acknowledged internationally. The WHO data on the global monitoring of COVID-19 clearly shows a steep decline in the number of daily infections from the peak in mid-June of over 6,000 to merely 500 or lower per day for most of August with just 2 deaths on Sept 6, 2020. Government of Pakistan measures such as complete, smart and micro-lockdowns as well as testing, tracing and quarantine and self-isolation led to the curtailment of the spread of virus to a large extent. Similarly, government took a number of positive initiatives to stimulate the economy and provide relief to the poor and indigent as detailed in section above.

Critique on the Pandemic Management

FIGURE: 5.5

Key Areas of Improvement



Source: Developed by BIPP's team

Without, however, belittling the government's accomplishment, there are definitely some specific areas of improvement which need to be addressed and resolved. This shall help to ensure a more efficient, cost effective and timely response to the possible second wave or future epidemics. This is imperative since a recent sero-prevalence study conducted in July, 2020 by the Health Services Academy in collaboration with Agha Khan Hospital and WHO revealed that 11 percent of Pakistanis have developed COVID-19 antibodies while 89 percent remain at risk¹². (See Figure 5.5)

Spread of the Pandemic: The initial response of the Federal Government, despite fully cognizant of country's vulnerability due to close proximity with China- the epicenter of the epidemic and Iran, was at worst lackadaisical and at best, improvised. The government should have formulated immediate action plan to minimize the chances of the import of disease to Pakistan. In January 2020, there were approximately 28,000 Pakistani students studying all over China. In addition, 800 resident Chinese traders and around 1,500 Pakistani traders travel in between the two countries frequently¹³. Besides thousands of pilgrims from Pakistan regularly visit the infected countries notably Iran and the Middle East . Despite this obvious vulnerability, the government did not monitor the returning Pakistanis from these hotspots. Thermal scanning at the major airports, introduced in February 2020 proved ineffective and futile.

The pressure of the Religious Groups: The government neither showed the will nor effectively engaged the religious groups and instead caved into the pressure of keeping mosques open and holding the religious congregation of the Tablighi Jamaat. Even the SOPs in the mosques were observed more in breach than compliance.

Border Closure and Quarantine Facility: Pakistan closed its Taftan border to travelers

returning from Iran around 7th March after 43 cases were already reported. The border was reopened after 14 days of closure to allow thousands of incoming pilgrims to return who were taken to the makeshift quarantine camps in Taftan, Baluchistan. In the absence of testing equipment for COVID-19, the disease is speculated to have spread unchecked in early months. The makeshift camps lacked even the basic facilities and management apparatus such as running water and cleanliness. At times, the infected and non-infected were herded together, which had led to a sharp rise in the number of infected persons. Due to the chaotic management and inhospitable conditions, a number of pilgrims escaped the quarantine camps. As the testing kits became available in big cities, e.g Karachi, Lahore and Islamabad, it was revealed that international travelers from not only Iran but also returning from Europe and the Americas were testing positive for the virus. With no precautionary measures and little public awareness, the unbridled spread of virus across Pakistan could not be contained.

Lockdown Regime: Even with National Coordination Committee, National Command and Operation Centre (NCOC) and the National Action Plan (NAP) in place, there was a discord for about 13 days as to the nature and severity of lockdowns with the center favoring “livelihood” over “lives” on the plea that the largest faction of the economy especially in the informal sector comprised a hefty proportion of daily wage earners. The ambivalence, lack of clarity and discord between the Federal and some Provincial governments notably Sindh could have been avoided through engagement, dialogue and consultation. Further more, the enforcement action was inefficient and episodic especially on the part of police which failed to ensure compliance of SOPs and shop closures.

Healthcare System: Pakistan spends 2 percent of its GDP on healthcare against a global average of 10 percent and much less than even its neighbours. The

latest data from the World Bank shows that in 2017 Pakistan spent around US\$45 per citizen on healthcare. Thus, it was ill prepared to respond to the rapid spread of the pandemic. This situation was further aggravated, in the early months by quite a few faulty testing kits leading to a large number of incorrect diagnoses. The government stock had piled hydrochloroquine, a drug that was used to cure Malaria. According to Pharma Asia “adding hydrochloroquine (HCQ) on top of conventional therapy didn't shorten the time to SARS-COV-2 clearance in a 30-patient trial¹⁴.” It goes on to declare that China National Health Commission's COVID-19 treatment guidelines show(ed) some promise against the novel Coronavirus.” It further states, that due to a combination of drugs being given to the patients, “one cannot tell if hydroxychloroquine worked or not.” Nevertheless, the panic generated by the COVID-19 virus was so great, that the government stockpiled it, resulting in a shortage in the market thus preventing its access to Malaria patients.

Amidst the crises, the center appeared to delay the procurement of PPEs and other medical equipment to combat COVID-19. In the beginning there was indeed a shortage of PPEs and other protective equipment for the medical personnel. These were not easy to procure from abroad because almost all countries faced a shortage and were reluctant to part with what had become essential at the time of the pandemic. As reported by Cureus, “49.4 percent and 7.1 percent of doctors from Pakistan and the US respectively were forced to work without PPE, When compared to reports from United Kingdom (UK), where 56 percent of doctors felt pressurized to work despite inadequate PPE, our figures are lower but cannot be ignored.” Presently, we are not facing any shortage of PPE as these can be procured from wholesale dealers in bulk or online.

The reliability of data on testing. There were wide speculations and perceptions as to the doctoring of

the statistics and under reporting of COVID-19 data to pacify the public and portray a positive international image. A government survey conducted in and around Islamabad concluded that 300,000 people may have been infected by the virus there alone with a majority of them asymptomatic; and shockingly similar trends were found in Lahore where it was declared that none of the City Union Councils is free of the virus¹⁵. It must also be noted that the government's testing facilities applied a stringent criterion of extreme and visible symptoms for the virus test and that the private testing for the virus at certified lab was exorbitantly expensive fluctuating between Rs. 6,000 to Rs. 9,000, that is much beyond the means of the poor.

Relief Measures: The social protection expenditure in Pakistan constitutes just under 2 percent of GDP, far lower than the global average of 11.6 percent. Most of the informal sector is not covered by such schemes despite its contribution to the GDP (almost one-third) and employment (72 percent of all jobs outside agriculture)¹⁶. This in itself speaks of the plight of the poor and the vulnerability of the daily wage earners and their livelihood. This contributed to the economic slow down.

The government made good use of the National Database Registration Authority (NADRA) data on travel, taxes, billing, assets ownership, employment status etc., to identify the eligible families for disbursement under Ehsaas Emergency Cash Program. It successfully used Short Message Service (SMS) service and EasyPaisa tele-service to disburse cash. However, given the low technical and functional literacy level and absence of robust delivery mechanism, many cases were reported where the transferring agent or individual was deducting a 'fee' or simply giving a lower amount to the awardees on various pretext. The government functionaries were also involved in this corruption besides many cases in the far-flung districts to spoil the efforts¹⁷. Even the Tiger Force, a voluntary area-

based contingent of young people trained to disperse emergency aid had failed to deliver the desired results.

The NAP for the COVID-19 Pakistan though a holistic and comprehensive framework of action, seems not to have produced the optimal objectives. Firstly, the institutional capacity to muster such coordination is a massive task for a country like Pakistan. Secondly, the inadequacy and the dearth of health infrastructure has been a major constraint in the implementation of the Plan. Thirdly, the writ of state was indeed feeble regarding the enforcement action e.g. in the quarantine centers, violation of lockdowns, implementation of SOPs¹⁸, action against hoarding and black marketing of staple food and essential medicines etc. Fourthly, there was a general public apathy and non-compliance of the mandated norms like social distancing, use of face masks, washing hands etc.

Mass Communication and Awareness Campaign: The public messaging did falter in early days as the Center emitted confusing and uncoordinated messages e.g. the ministers had conflicting stance on the pandemic while the PM openly criticized provinces such as Sindh for politicizing the issue. Petty squabbles between the ruling party and opposition during the primetime television shows were a constant irritant. The mixed messages polarized public opinion. A purely legal matter became politicized. It is worth noting here that under the Constitution of 1973, the Federal Parliament can operate under enumerated powers while the provincial assemblies enjoy, “plenary” or absolute power. In simpler terms, parliament can only legislate a topic, if the constitution gives it the power to do so. Health has always been a provincial matter, even before the 18th amendment. Sindh showed clear anxiety regarding the spread of the disease and remained uncertain and unsure during the COVID-19 pandemic. There was also little effort to monitor and curb fake news and disinformation on the virus

on both the mainstream and social media.

Educational Institution: The government had decided to close the schools around mid- March which with hindsight seems to have been a prudent decision given that around 50 million students were vulnerable in around 300,000 schools with 2 million teachers across the country. The educational institutions were reopened in phases as from September 15, nearly six months after the COVID-19 pandemic as per the following time frame:

- Universities, Colleges and Class 9-12 on September 15th
- Class 6-8 from September 23th after a review
- Primary schools on 30th September

The Sindh Government had decided not to reopen schools in the second phase for classes 6-8 until September 28. The Federal government lamented this “knee jerk” response and based on the then statistics of 0.7 percent infection rate in the students across the country, advised other provinces not to follow the suit.

The class strength of students has been halved. The government also put in place the SOPs including six ft. distance between the seats, use of masks, proper ventilation of the class rooms, organized meetings of students in play grounds and a periodic testing of students at least every fortnight two weeks etc. The SOPs, however, are not being strictly followed by the educational institutions. The teachers do not seem to have been trained enough to ensure compliance of the SOPs. The government also does not have the capacity to test millions of students every two week. In addition, the transport which the students use to commute to schools continues to remain over crowded. The parents are also not playing their role in following the instructions to make the SOPs work, including not to send the sick children to school and to keep them away from the elderly people after they return.

Pakistan's Performance in the Global Context

The world is witnessing an increase in the number of reported cases of COVID-19, especially in Europe and the Americas though some countries have successfully controlled widespread transmission. The affected countries have deployed a package of targeted interventions where and when needed though in the wake of the pandemic drag, there is a rising frustration among many people, communities and governments. However, as the Director General of WHO emphasized in his media briefing of October 12, 2020 “there are no shortcuts, and no silver bullets. The answer is a comprehensive approach, using every tool in the toolbox.”

Against this backdrop, the succeeding section briefly attempts to appraise Pakistan's performance on the COVID-19 pandemic management compared to some of the worst affected countries like Brazil, China, India, Italy and USA¹⁹. The Figure 5.6 below shows the world wide incidence of COVID- 19.

As is evident, the upper middle (Brazil and China)

and high income countries (USA, Italy, Iran) seem to have been the worst affected followed by the lower income countries. The low income countries are the least affected.

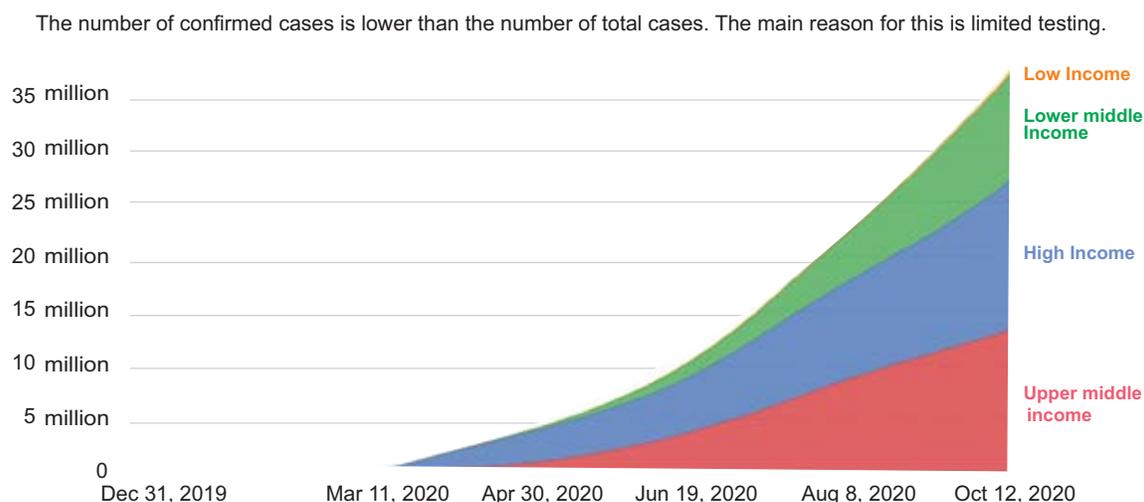
As for the comparative analysis, the parameters used are: the level of human development, the status of the health system, the situation with regards to social protection and the Pre-COVID-19 government effectiveness on the one hand and the incidence and intensity of the virus from its inception to date to appraise how the selected countries have performed in managing the COVID-19.

As regards the Human Development Report (HDI), the Figure 5.7 for 2019 clearly shows that USA ranks 15 with a score of 0.920, Italy 29, with a score of 0.883, Iran 65 with a score of 0.797, Brazil 79 with a score of 0.761, China 85 with a score of 0.758, India 129 with a score of 0.647 and Pakistan 152 with a score of 0.560. As for COVID-19 it should be noted that country (US) with highest HDI rank is the worst affected, while the one at the bottom (Pakistan) seems to have done well.

As for the Health system (Figure 5.8) represented by

FIGURE: 5.6

Total Confirmed COVID-19 Cases

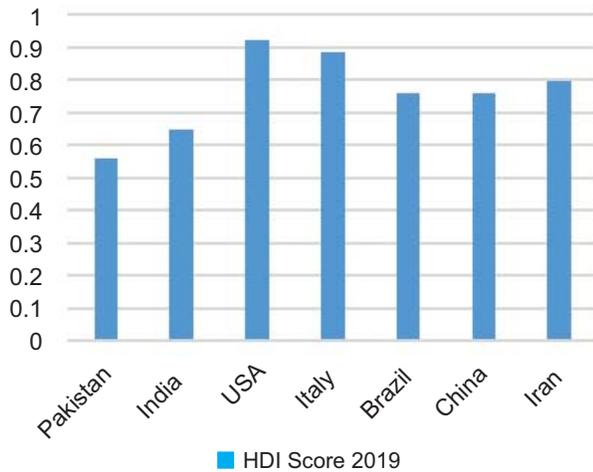


Source: European CDC - Situation Update Worldwide (OurWorldindata.org/coronavirus)

the physicians, nurses, mid wives and hospital beds per 10,000 people based on the data from 2010-2018 and current health expenditure (2016), USA, Brazil and India.

FIGURE: 5.7

HDI Score



Source: Human Development Report 2019

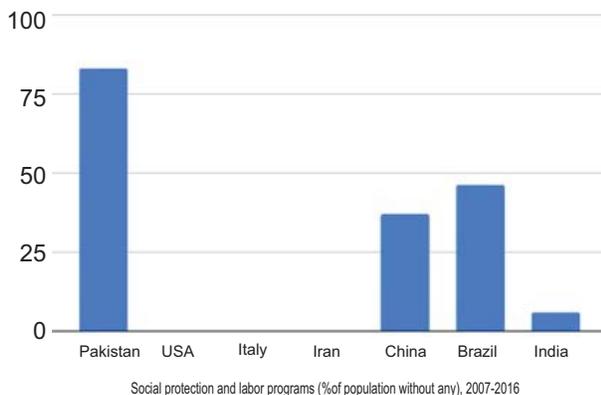
and Italy (among the worst affected countries) are clearly far ahead compared to India and Iran while Pakistan's status of health systems lags considerably behind even worse than India.

Figure 5.9 based on the available data 2007-16, also amplifies that in Pakistan the percentage of

FIGURE: 5.9

HDI Score

Social protection and labor programs (%of population without any), 2007-2016

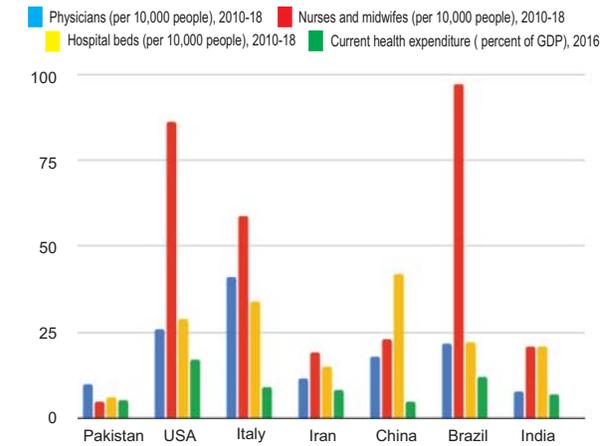


Source: UNDP COVID-19 and Human Development Report 2020

population without social protection and labor programs is the highest compared to Brazil, China and India. Regarding the Pre-COVID-19 govern-

FIGURE: 5.8

Health Systems



Source: UNDP COVID-19 and Human Development Report 2020

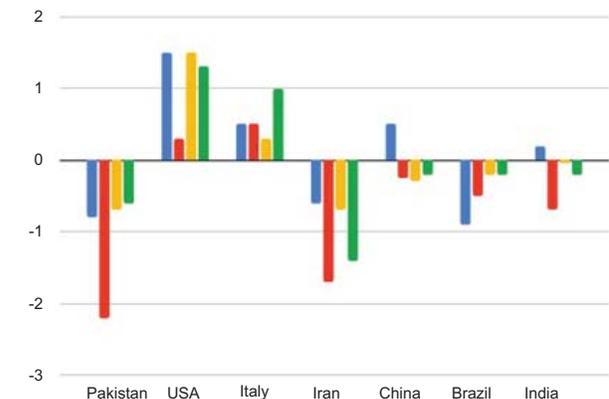
ment effectiveness (2019), the situation of Pakistan is equally bleak being the worst among the countries being compared (Figure 5.10).

In view of the foregoing, it becomes palpably evident from the Figures 5.11 and 5.12, that Pakistan managed COVID-19 pandemic remarkably well in

FIGURE: 5.10

Government Effectiveness 2019 (Pre-COVID)

Government Effectiveness, Political Stability and Absence of Violence Terrorism, Rule of Law, Regulatory Quality



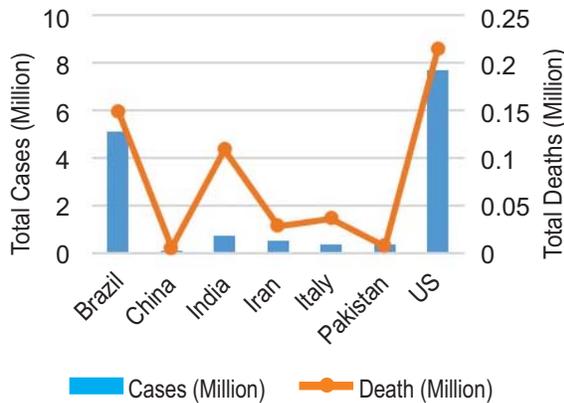
Source: UNDP COVID-19 and Human Development Report 2020

terms of its spread, total cases and deaths per million as compared to USA and Brazil with a lot better HDI ranking, health system, social protection programs and governance effectiveness.

The Figure 5.13 based on Government Response

FIGURE: 5.11

Total COVID Cases VS Deaths per million as of 11 October 2020



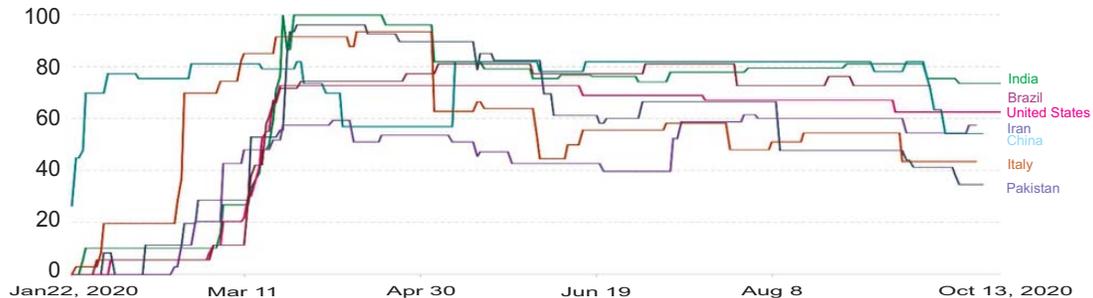
Source: ourworldindicator.org/coronavirus

Stringency Index further validates the robustness and effectiveness of the measures implemented by Pakistan to address the COVID-19 pandemic²⁰.

FIGURE: 5.13

COVID-19: Government Response Stringency Index

This is a composite measure based on nine response indicators including school closure, workplace closure, and travel bans, rescaled to a value form 0 to 100 (100 = strictest). If policies vary at the sub-national level, the index is shown as the response level of the strictest sub-region.



Source: Hale, Webster, Petherick, Phillips, and Kira (2020). Oxford COVID-19 Government Response Tracker - Last updated 13 October, 10:43 (London time)

Note: This index simply records the number and strictness of government policies, and should not be interpreted as 'scoring' the appropriateness or effectiveness of a country's response.

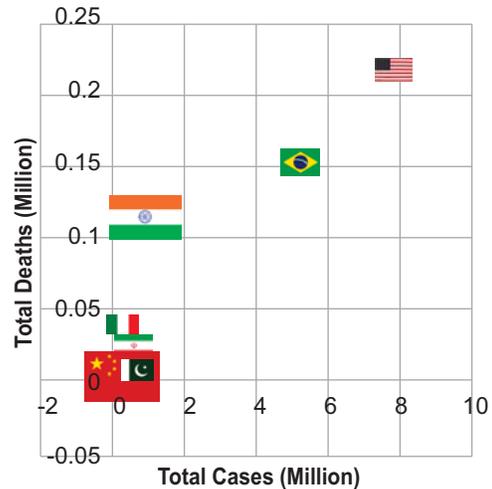
OurWorldInData.org/coronavir - CC BY

Recommendations

There is by now a rich and cumulative experience both nationally and internationally of what works and what does not to fight COVID-19. It is thus

FIGURE: 5.12

Total Cases and Deaths as of 11 October 2020



Source: ourworldindicator.org/coronavirus

critically important for the government to strengthen further its preparedness and response mechanisms to be able to cope effectively with a possible second wave or future pandemics.

Firstly, the government should assume a clear leadership role in achieving a national political consensus and respond to catastrophes together with the opposition; there should be a concerted effort to desist from polarizing politics. Both Pakistan Peoples Party (PPP) and Pakistan Muslim League Nawaz (PML-N), the mainstream parties, offered their full support in the early days but Pakistan Tehreek-e-Insaf (PTI) government squandered away the opportunity. The already established conflict between the Federal Government and some provinces and territories notably Sindh seems to have been exacerbated with the Federation being perceived as more assertive and intrusive even in the areas which have been devolved on the provinces as a result of 18th amendment. National interest should take precedence over myopic political divisiveness.

Secondly, the government, with the help of the United Nation (UN) system notably WHO and major relief agencies like UNDP, OCHA, UNICEF, IMO, UNHCR should undertake further analytical studies to identify the possible and projected epidemic scenarios to validate and/or augment the NPA and integrate it with the economic development process. The areas which require further probe include:

- An assessment should be made of the possible hazards of unforeseen catastrophic events such as pandemics. Special emphasis should be paid on estimating the extent of exposure to the citizens and their vulnerabilities.
- The health system should be strengthened, especially the vertical linkage of primary, secondary tertiary and specialized health care facilities.
- A system of risk-vulnerability mitigation including early warning, monitoring and pandemic surveillance system to identify and detect clusters and contain the spread of disease

should be introduced.

- Preparation of operational plans at the district level should be endowed with the technical capacity to conduct tests and make the results available within 24 hours. Communication and awareness need to be an integral part of this endeavor.

The importance of social safety nets, protection systems, smooth functioning of supply chains and availability of assured supplies cannot be overstated. In addition to the above, decentralization of emergency management and community participation is also needed. The significance of resource allocation, insurance policies, reserve funds and capital facilities cannot be disregarded either.

Thirdly, within the government, there are both vertical and horizontal coordination impediments as manifested by initial lack of cooperation between the federal and provincial governments. A fully functional institutional and governance structure is sine qua non for effective, timely and efficient response to a pandemic of such scale and size. This is absolute necessity specially to deal with the subjects devolved to the provinces under the 18th amendment of the constitution e.g., health, education and social protection and with border control and aviation which fall within the federal government domain.

Fourthly, government needs to establish its writ and will not to succumb to the vested religious pressures by, inter alia, mobilizing the moderate and enlightened religious scholars most whom supported the science based decisions on regulating the religious places of worship.

Fifthly, as UN-Habitat indicates, more than 95 percent of the COVID-19 cases have been recorded in urban areas around the globe²¹. A crucial step to controlling the pandemic entails managing urban slum area and Katchi Abadis in Pakistan with

estimated 32 million. Residents in these dwellings are more prone to malnutrition and vulnerable to infectious diseases due to the lack of access to basic municipal facilities e.g drainage, clean drinking water and clean toilets.

Sixthly, building local capacity is very important to protect the people from the next round of epidemic. The government needs to mobilize the non-governmental organizations and development partners to build simple and scalable solutions to prevent the next epidemic. This includes improvement of technical capacity for planning and implementation; local political support for sustained finances; and institutional support to better prepare for the next outbreak.

Finally, the scientific understanding of the spread of epidemics has highlighted the criticality of nurturing prevention oriented nor and culture not only for the citizens but also for the entirety of business, commerce and trade operations to inspire behavioral change and psychological resilience. Better hygiene, cleaner environment, periodic health checks, improved building ventilation system and protective equipment should become the norm and the inalienable collective responsibility of the citizens.

Conclusion

A national collaborative effort both vertical and horizontal and driven by science, professional

expertise, evidence and consensus based strategy seems to have been eventually unleashed under the leadership of the National Command and Operation Centre and the National Coordination Committee on COVID-19. However, the threat is far from being over as is manifested by the resurgence of the second round of the disease elsewhere in the world notably Spain, France, UK, Italy and its continuing lethality in USA and some of the Latin American countries. The onset of the winter season could potentially aggravate the situation enormously as influenza and Flu outbreaks are most common during the fall and winter.

The major questions which continue to ricochet are: Will the government be fully prepared to better handle and respond to the possible second wave or future pandemic of this scale? Have the lessons been learned to address, as a matter of urgency, the underlying systemic vulnerabilities to mitigate the risks and loss of precious lives and at the same time alleviate the possible associated economic afflictions? When and even whether a vaccine or some other treatment will be developed, will it be robust enough to bring the pandemic under full control? What will be the trajectory of economic recovery and its impact on the livelihood assets of the poor? If the preparedness and response capacity is not improved and the pandemic is allowed to spread, it may lead to eruption of serious and acute socio-economic crisis including mass unrest and violent protest to destabilize the country.

Chapter

6

COVID-19 and Climate Change

COVID-19 and Climate Change

Tariq Husain & Atr-un-Nisa

Introduction

This chapter has two parts. The first is on COVID-19 and the second is on climate change. Both are global in nature. Unfortunately, humanity is not ready for either. Both require scientific capability and governance. The first part of the chapter is a multi-country performance analysis (till August 15, 2020) of addressing the challenges of COVID-19 through scientific capability and effective management. The lessons from this evaluation are then applied to the bigger challenge facing Pakistan regarding the challenges from global warming. The threat from global warming is dire, as it can potentially cause the extinction of human beings from the planet.

Nobel Laureate Joshua Lederberg said in 1985, “The single biggest threat to continued human dominance on the planet is the virus.”

Fifth Intergovernmental Panel on Climate Change (IPCC) Report in September 2019, “the current pace of human caused carbon emissions are likely to trigger an irreversible damage to planet Earth”

PART-I: COVID-19

In April 2020 Bill Gates made a profound observation: - “The coronavirus pandemic pits all humanity

against the virus. This is like a war, except in this case, we are all on the same side.”

In his Ted Talk of April 2015, he had made another observation that the greatest risk humanity faces is a highly infectious virus which can kill ten million people. But for that humanity is not ready. Gates was not the first one to make such an observation. Nobel Laureate Joshua Lederberg, cited above, made even more petrifying predictions in 1985. The late, Dr. Edwin Kilbourne, a leading influenza vaccine researcher, in the mid-1980s, presented the strong possibility of a Maximally Malignant Monster Virus (MMMV) which would be transmitted through air like influenza, would insert its own genes into the host nucleus like HIV AIDS virus, and be environmentally stable like polio. The coronavirus is not the Kilbourne- MMMV, but has most of its fearsome properties. Scientists, including Dr Anthony Fauci, have continued to warn about the dangers ahead and the need for humanity to be ready. But no one who mattered has been listening even though the AIDS pandemic has been raging since 1980 and has no cure to date. It is managed through a combination of “antiretroviral drugs” and different management techniques. If managed properly, an infected person can live a “near-normal life” but can never be free of this disease. The death toll from AIDS, so far, is 32

million. In his book, ‘A Dancing Matrix’ Robin Marantz Henig, focused on how scientists present the dangers from emerging viruses but leaders do not pay adequate operational attention. Similar books on the subject, many best sellers, had the same message about the threat from the virus. Some of the

best sellers were: The Coming Plague, by Laurie Garret written in 1994; The Hot Zone by Richard Preston also in 1994 and The spillover written in 2007 by David Quammen on Zoonotic diseases. These authors are currently a constant presence on electronic media.

TABLE 6.1

Humanity's Experiences with Viral Pandemics

| Name | Year | Scale | Deaths (million) | Comments | Virus name |
|-----------------------|--------------|--------|------------------|---|----------------------|
| Asian Flu | 1957-8 | Global | 1.1 | First detected in Asia. Had a brutal second phase. The young suffered more. | H2N2 |
| Hong Kong Flu | 1968 | Global | 1 | Still a recurring virus | H3N2 |
| HIV AIDS | 1981-present | Global | 32 | Official death toll began in 1981 when the disease was recognized as AIDS. About 38 million live with it. No Vaccine yet. | HIV |
| Cholera-6 | 1899-1923 | Global | 1 | Just in India for one year. Recurring | Vibrio Cholerae |
| Third Plague Pandemic | 1894-1922 | Global | 10 | Began from southwest China, transmitted to Hong Kong and spread to other ports in India, China, Indonesia | Yersinia Pestis |
| Spanish Flu | 1918-19 | Global | 50 | Began in Spain; Affected soldiers of World War 1 and spread widely. One third of World Population got infected. | H1N1 |
| Russian Flu | 1889-1890 | Global | 1 | First epidemic to occur in a highly connected world | Flu strain not named |
| Cocoliztli-2 | 1576-78 | Mexico | 2.5 | Killed 50 % of the Native Population remaining from the 1540s epidemic | Virus unnamed |
| Smallpox | 1519-20 | Mexico | 8 | Arrival of Spanish invaders and the virus help defeat and destroy the Aztec civilization | Smallpox variola |
| Cocoliztli-1 | 1545-48 | Mexico | 15 | Killed 80 % of the Native population | Virus unnamed |
| Black Death Plague | 1347-1351 | Global | 50 | Killed 30-50 % of the European population | Yersinia Pestis |

Source: National Geographic August 2020

Besides recent books on the subject, humanity has already experienced the 1918 Spanish Influenza pandemic which led to 50 million deaths (of which seven hundred thousand were US citizens) over a period of two years. It may be noted that the First World War had a lower death toll of 20 million. The twenty first century has had its own encounters with viruses: SARS in 2003; MERS in 2012 and Ebola in 2012. But these were not pandemics because SARS stayed in Asia, MERS in the Middle East and Ebola in Africa. The US and the developed world helped technically in these regional epidemics but did not prepare for the MMRV. One cynical response made by a Field Virologist to the question of why the developed world is not taking the virus threat seriously was that because it is being seen as somebody else's problem. Table 6.1 presents a historical perspective of humanity's experience with viral pandemics and it is clear that it has not been just somebody else's problem. Luckily in some nationally important conflicts, the virus has also been a critically important ally of the western world. (See in Section I).

Historical Impacts of Viral Disease

The death totals listed in Table 6.1 are not the only effects of the pandemics on the spread and development of the western world. The virus helped defeat enemies in the expansion-wars of the West. As noted in Table 6.1 the native populations did not have herd immunity to the viruses brought by the European invaders and so perished in huge numbers. In his book, "Viruses, Plagues & History", Oldstone states, "Smallpox completely decimated the combined French / Spanish led naval invasion of England and played a key role in preventing the continental army in the American revolution from conquering Canada. The successful conquest of Mexican Aztec and Peruvian Inca empires by a handful of Spanish conquistadors resulted in large part from epidemics of smallpox and measles virus infection that decimated the native defenders.

History asserts that the defenders were initially winning against the Spanish till the smallpox epidemic began. The psychological aspect of seeing Spaniards, who fought under a Christian God, resist this new malady while warriors of the Aztec Gods were dying of infection demoralized the native population. The stricken Aztecs interpreted the deaths of their people while the Spaniards were untouched as a clear indication that the Christian god had dominance over native gods. This led to the destruction of the local culture and millions of the Native Americans converted to the Christian faith."

Viruses have played a commanding role in wars of conquest and the expansion of European dominance in the New world. One historical reason described by Oldstone is the enabling effect of viruses for the Louisiana Purchase.

"The French colonized Haiti and primarily used African slaves, who were resistant to yellow fever, for their plantations. The African slaves revolted in early nineteenth century. To put down, the uprising Napoleon sent 27,000 French Crack troops to Haiti. These French soldiers were not immune to yellow fever and died in large numbers. This huge loss was one of the major considerations leading Napoleon Bonaparte to offer the sale of the Louisiana Territory to the United States.

We know from US History books that Thomas Jefferson negotiated this purchase which, over time, enabled the US to expand its territory from the Caribbean shores to Canada and on to the Pacific Ocean.

Humanity's Response to COVID-19

In spite of the continual warnings and our historical experience why is it that humanity was not adequately prepared to address the challenge presented by COVID-19. In this section, we will analyze the performance of eighteen countries from Europe, Asia, North and South America. The analysis is in

terms of two macro variables: Governance and Scientific Capability. Governance includes National Leadership, Political System, Stabilizing, and Implementation Institutions. Scientific capability is estimated by the Critical Mass of national scientific capacity. The Critical mass is estimated by the Research and Development (R&D) capacity per million population multiplied by the population. To carry out the analysis it is necessary to introduce the basics of Virology in our vocabulary.

What is a Virus? How does it Infect?

“Viruses vary in their structure” but virus is a single nucleic acid (RNA or DNA-never both) and a shell made of protein molecules called capsid that encloses its genetic material. The virus multiplies in accordance with the instructions in its RNA or DNA. Viruses are not alive i.e they cannot multiply unless they invade a living cell. However, viruses can invade all cellular forms of life from plants, animals, bacteria, fung and protozoa. Together viruses, plants and animals form the three main groups which

TABLE 6.2

Sizes of Viruses, Bacteria and Human Cell

| Name | Size -nano meters | Number of Genes | Comment |
|----------------------|-------------------------|-----------------|---|
| Smallpox | 200 | 200-400 | Largest virus |
| Measles | 150 | 200-400 | ----- |
| Influenza | 150 | Less than 10 | ----- |
| HIV | 100 | Less than 10 | ----- |
| Polio | 30 | Less than 10 | ----- |
| Yellow fever | 70 | Less than 10 | ----- |
| Ebola | 200 | Less than 10 | ----- |
| SARS | 60-140 | Less than 10 | |
| Coronavirus | 19-12 | Less than 10 | Smallest virus |
| Bacteria | 400 nm to 3 micrometers | 5,000-10,000 | Huge relative to a virus |
| Human breath droplet | 5-10 micrometers | ----- | ----- |
| Human cell | 10 micrometers | 30,000 | Diameter of 7-8 micrometer; volume of 100 micrometers cubed |

Source: Oldstone M.B.A: - Viruses, Plagues & History. Oxford

encompass living things. As noted above, viruses cannot reproduce unless they invade a cell. So, they have the ability to invade cells and use the replication systems of the host cells. Viruses are very small (nano meters) and have fewer genes compared with other organisms. Table 6.2 presents the sizes and gene compositions of the principal viruses known to humans. To maintain itself in nature and to replicate a virus must attach to a receptive cell. Next, if it can, the virus penetrates the cell's interior and takes control of the reproductive apparatus of the cell. It then uses the cell to replicate its genome i.e multiply. The mature viruses formed from the replication exit from the cell, attach to other cells and repeat the multiplication process. If the immune system of the host is not capable to subdue this multiplication process, the invaded body becomes diseased.

While viral diseases were recognized in early history, the virus was too small to be recognized as a separate infectious agent until the 1890s. The physically larger bacteria were identified in the mid-1800's by Louis Pasteur and Robert Koch and their associates. Visualization of the nanometer sized viruses became possible in the 1930s with the use of electron microscopy. The culturation of living cells by viruses was not possible till the 1940s and 50s.

Governance and Scientific Capability

Governance: It is obvious from the above that the virus has played a historical role in human history and it has caused a major harm to human health. So, why is it that humanity still remains unprepared? We were not ready for COVID-19 despite all the recent and historical warnings-recent and historical. Social Scientists have presented a three-part explanation for this pervasive behavior. The first part of the explanation is that humans have a high Discount Rate for the future-meaning that we give more attention to near term consequences. For example, not investing adequately in long-gestation infrastructure such as climate change or education. On a

personal level, most of us may not save enough for the proverbial rainy day or for retirement. The second part of the explanation is that the majority of political leadership may not have the intellectual capacity to understand the complexity of decision making which requires balancing the present and the future in an optimal way. The German Chancellor, Angela Merkel who has a PhD in Quantum Chemistry is an exception.

The only group which does not behave with a high discount rate is parents. They invest in the future of their children and routinely sacrifice current consumption to increase the prospects for their offsprings. This is a globally observed behavior even though most of them also make the same complex decision-balance the present with the future. However, the majority acts to favor the longer term. This group is an important offsetting force in stabilizing national level utilization of resources. Political leadership, in all political systems, takes responsibility to fulfill their oaths to optimize Public Value i.e the welfare of the citizens they represent. However, their decision processes are motivated by serving Private Value. This behavior is responsible for the wide presence of corruption in the discharge of public responsibility. The third part of the explanation is that governance requires balancing contemporaneous conflicting interests of both the citizens, institutions and foreign interests. In democracies, both Parliamentary and Presidential, balancing the interest of political parties and other powerful subgroups require compromises. These compromises generally lead to sub-optimal policies and actions. Election timetables routinely override longer-term value considerations. In authoritarian systems, the process is the same, the power groups have different sources of power and balancing methods may often be brutal. The above three-part explanation plays out well in our analysis of the country's experiences in handling the challenge of COVID-19.

Scientific Capability: The Scientific capability of the nation is an essential component of national decision making. This capability may be estimated by the size of the scientific community. The United Nations Educational, Scientific and Cultural Organization (UNESCO) measures this globally and reports it as a number of scientists and engineers engaged in R&D. This group is a sub-set of the total scientific community. They are the repository of national knowledge of the relevant subject and it is to them that the national leaders turn to when they face new technical challenges. The dialogue between this group and the political leadership is critical for making sound decisions. The three constraints explained above for governance operate

in tandem. Table 6.3 presents OUTCOME and CAPABILITY information for eighteen countries from Asia, Europe, North and South America. The OUTCOME data for governance is the number of COVID-19 infection cases and the number of deaths from COVID-19 at the end of the review period which is from January 01 to August 15, 2020. The CAPABILITY data is estimated by the Number of Scientists and Engineers per million of population for these countries. The information for CAPABILITY in Table 6.3 is per million of population in order to permit a inter-country comparison. The total scientific capability of the country—called CRITICAL MASS-- is obtained by multiplying it by the population of the country. The Table 6.4 gives the

TABLE 6.3

Country Rank Comparison of Outcomes and Scientific Capacity

| Country | RANK Scientific Capacity per Million Population | RANK Cases per 100 thousand Population | RANK Deaths Per 100 thousand Population |
|-------------|--|---|--|
| Pakistan | 17 | 4 | 4 |
| India | 18 | 5 | 5 |
| China | 15 | 1 | 1 |
| South Korea | 3 | 2 | 2 |
| Japan | 6 | 3 | 3 |
| USA | 11 | 18 | 14 |
| Canada | 10 | 10 | 11 |
| UK | 9 | 13 | 18 |
| Brazil | 16 | 17 | 13 |
| Russia | 13 | 14 | 9 |
| Germany | 7 | 8 | 10 |
| France | 8 | 11 | 12 |
| Italy | 14 | 12 | 16 |
| Spain | 12 | 15 | 17 |
| Sweden | 2 | 16 | 15 |
| Denmark | 1 | 9 | 8 |
| Norway | 5 | 7 | 6 |
| Finland | 4 | 6 | 7 |

Source: John Hopkins University /COVID Resource Center; Time. Com/ COVID Dashboard; UNESCO Institute of Statistics; United Nations.

TABLE 6.4**Critical Mass of Scientific Capability**

| Country | Number of scientist and engineers in R&D per Million of Population (RANK) | | Population of country Million | Critical Mass of Scientific Capacity | Rank of Critical Mass of Scientific Capacity |
|----------|---|------|-------------------------------|--------------------------------------|--|
| India | 253 | (18) | 1380 | 34,9140 | 7 |
| Pakistan | 336 | (17) | 220 | 73,920 | 15 |
| China | 1225 | (15) | 1439 | 1,762,775 | 1 |
| Russia | 2822 | (13) | 145 | 409,190 | 5 |
| Germany | 5000 | (7) | 84 | 420,000 | 4 |
| France | 4450 | (8) | 67 | 298,150 | 8 |
| Sweden | 7597 | (2) | 10 | 75,970 | 14 |
| Finland | 6722 | (4) | 5.6 | 37,643 | 17 |
| Norway | 6489 | (5) | 5.5 | 35,689 | 18 |
| Denmark | 7899 | (1) | 5.8 | 45,814 | 16 |
| Korea | 7498 | (3) | 52 | 389,896 | 6 |
| Brazil | 888 | (16) | 210 | 186,540 | 10 |
| UK | 4341 | (9) | 68 | 295,188 | 9 |
| Italy | 2245 | (14) | 60 | 134,700 | 12 |
| Spain | 2855 | (12) | 47 | 134,185 | 13 |
| Canada | 4264 | (10) | 38 | 162,032 | 11 |
| Japan | 5304 | (6) | 127 | 673,608 | 3 |
| USA | 4245 | (11) | 330 | 1400,850 | 2 |

Source: John Hopkins University /COVID Resource Center; Time. Com/ COVID Dashboard; UNESCO Institute of Statistics; United Nations.

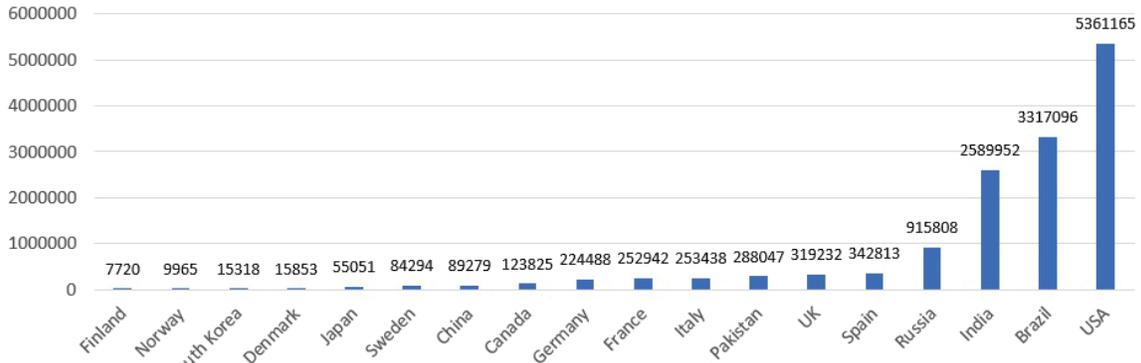
critical mass of scientific capability. China is number 1 with 1.8 million scientists engaged in R&D and USA is second with 1.4 million. Japan, Germany Russia, Korea are in top six. Pakistan is ranked 15th, which is third from bottom. For a country of 220 million this level of total scientific development capacity is abysmally inadequate to address its developmental challenges that include Climate Change and is discussed in Part II of this paper.

Country Analysis for COVID-19 Performance

Annexure-1 has both the raw and normalized outcome and scientific capability data for the eighteen countries in the sample. The raw outcome data for Infections and Death by country is given in columns 1 and 2 and is presented in Figure 6.1 and 6.2. The normalized data of Columns 3 and 4 is presented in Figure 6.3. The normalized scientific capacity data of column 5 is presented in Figure 6.4. The data is till August 15, 2020.

FIGURE 6.1

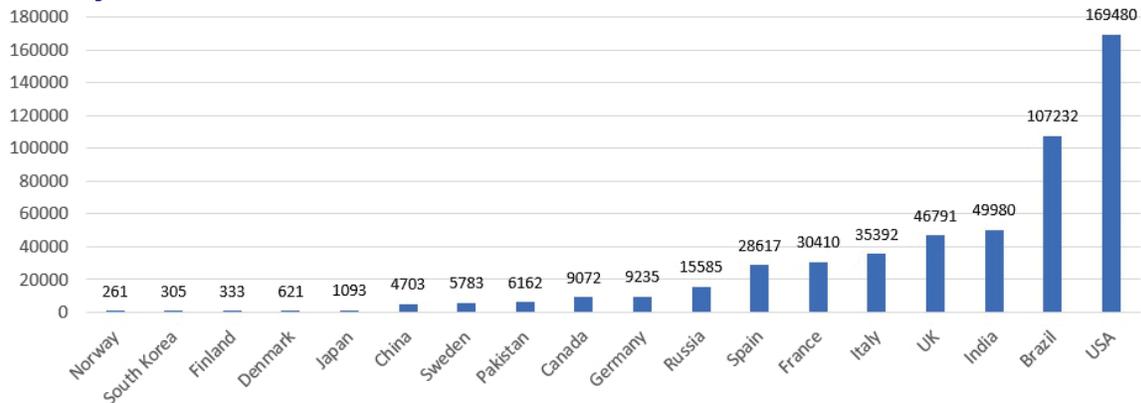
COVID-19 Cases



Source: John Hopkins University /COVID Resource Center; Time. Com/ COVID Dashboard; UNESCO Institute of Statistics; United Nations.

FIGURE 6.2

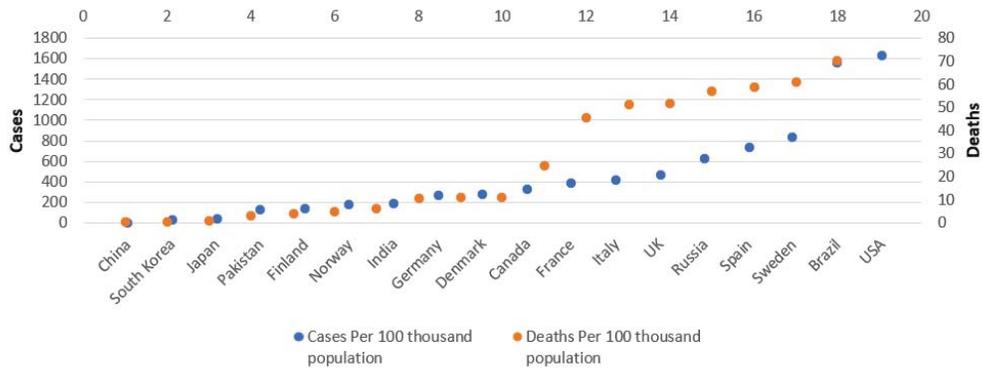
Deaths by COVID-19



Source: John Hopkins University /COVID Resource Center; Time. Com/ COVID Dashboard; UNESCO Institute of Statistics; United Nations.

FIGURE 6.3

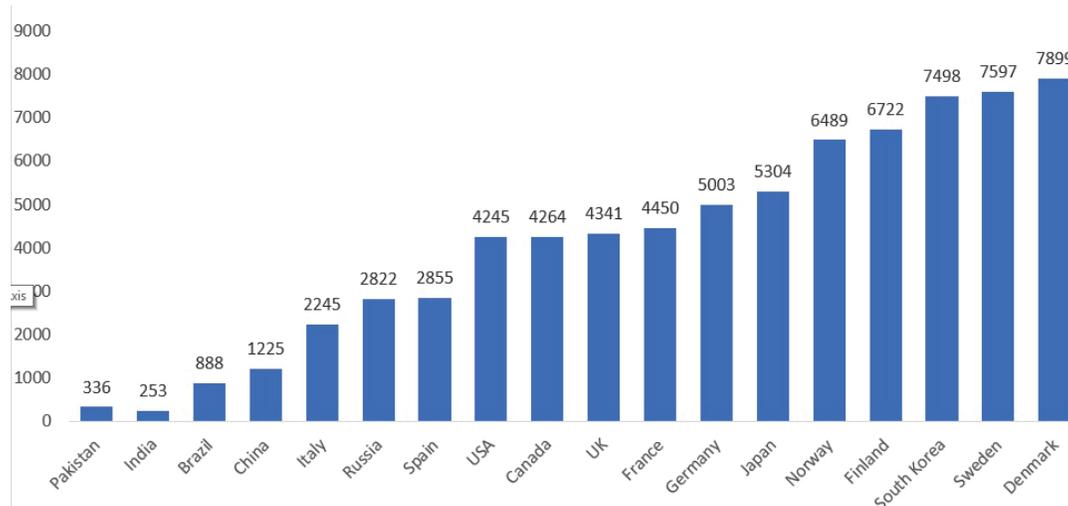
Cases and Deaths per Hundred Thousand Population



Source: John Hopkins University /COVID Resource Center; Time. Com/ COVID Dashboard; UNESCO Institute of Statistics; United Nations.

FIGURE 6.4

Scientific Capacity per Million Population



Source: John Hopkins University /COVID Resource Center; Time. Com/ COVID Dashboard; UNESCO Institute of Statistics; United Nations. and the United Nations

Combining Governance with Scientific Capability enables us to evaluate the core function of Governance which is to seek, understand and utilize the advice of the scientific community to accomplish public goals. In the case of COVID-19, the public goal is to minimize the socio-economic cost of the pandemic. The scope of this paper is mainly focused on the health sector which is measured by the number of infections and subsequent deaths. Infection results in sickness and the outcome is either recovery or death. But one has to bear in mind that there are post recovery health costs as well, personal financial and unemployment costs. For this reason, minimizing COVID-19 related infections and deaths is the foremost test of good governance. Countries which have done well are those where the achieved rates of infections and deaths are comparatively lower. Negative fallouts like reduction of economic output, increase of unemployment and the associated budget costs of dealing with the effects continue side by side but are not incorporated in this scrutiny. Table 6.3 has the normalized data with the performance ranking of the countries in terms of the infections and death reduction objectives and Table 6.4 has the information about the Critical Mass of

Table 6.5

Country Performance Evaluation

| Country | Outcome Ranking Cases | Outcome Ranking Deaths | Scientific Capability Ranking |
|----------|-----------------------|------------------------|-------------------------------|
| China | 1 | 1 | 1 |
| Korea | 2 | 2 | 6 |
| Japan | 3 | 3 | 3 |
| USA | 18 | 14 | 2 |
| Russia | 14 | 9 | 5 |
| Germany | 8 | 10 | 4 |
| India | 5 | 5 | 7 |
| France | 11 | 12 | 8 |
| UK | 13 | 18 | 9 |
| Brazil | 17 | 13 | 10 |
| Canada | 10 | 11 | 11 |
| Italy | 12 | 16 | 12 |
| Spain | 15 | 17 | 13 |
| Sweden | 16 | 15 | 14 |
| Pakistan | 4 | 4 | 15 |
| Denmark | 9 | 8 | 16 |
| Finland | 6 | 7 | 17 |
| Norway | 7 | 6 | 18 |

Source: John Hopkins University /COVID Resource Center; Time. Com/ COVID Dashboard; UNESCO Institute of Statistics; United Nations. and the United Nations

Scientific Capability. Table 6.5 presents the result of superimposing the outcome rankings from Table 6.3 on the scientific capability ranking in Table 6.4.

China, Korea and Japan have managed their scientific capacity and governance mechanisms most efficiently and are the top three performers in the country league-table. The superior performance of Asian countries is impressive. China has an authoritarian system while Korea and Japan are democracies. So, it seems that it is just not just the political system which is responsible for better performance, Asian values, cultural discipline and superior governance have also played a significant role in this respect.

The US, with 4 percent of world population, 25 percent of worldwide infections and 20 percent of worldwide deaths is the worst performer. It has not utilized its substantial scientific and institutional capacity (CDC; FDA; COVID-19 Task Force; NIH; and universities)¹ efficiently. In the early phase (January till early March 2020) of the pandemic, the current administration publicly denied the pandemic and took no actions despite warnings of dire consequences by the Federal Task Force operating from the White House. In early March of this year, the Federal Government finally decided to impose a partially effective lockdown but failed to reduce virus levels sufficiently. The Administration then ignored its own re-opening plan and decentralized management responsibility to the fifty US States. The behavior of the US Administration is a classic case study of how to produce bad outcomes. The exclusive focus of the Administration on short term political goals and the associated dysfunctional relationship with Congress led to the current grim situation. As noted above, the US is worst in number of cases and deaths and its surveillance level testing is nowhere near what is necessary to bring the virus counts down to a level where normal economic activity can re-start. Nancy Pelosi, Speaker of the House, has described the current US situation as a

runaway train. As a result, US citizens are not allowed entry in more than 100 countries due to the current infection levels in the country. An August 18, 2020 Gallup survey found national satisfaction with the Federal COVID-19 handling at 13 percent.

The European countries utilized their scientific capacity and Governance well and have contained the virus to a level where normal economic activity can begin. The European outlier is Sweden which opted for the strategy to achieve herd immunity but has not fared any better than its European counterparts. According to Statista's Sept 17, 2020 report, though Sweden's death rate surpassed other Scandinavian countries, it was also due to the fact that Finland and Sweden have, "comparatively small ministries - the politicians are more directly in charge of administration in Norway and Denmark." This made it easier for these two Nordic countries to react quickly with "political decisions." According to Strang, Sweden's different strategy is, "the central role of the economy." He further writes that there is a strong tradition in Sweden of thinking that a functioning economy is a prerequisite for people's wellbeing and health.

On Oct 3 2020, The Times of India reported, "India's COVID-19 caseload crossed 64 lakh-mark, with 79,476 infections reported in a day-the death toll climbed to 100,842." What confounds analysts is that India, with its fast growing economy, scientific database and more than a seven decade long democratic tradition has confirmed that it has recorded more than a million virus-related deaths. The Indian Health Ministry's figures confirm that India's fatalities, "top 100,000 behind US and Brazil." There are many reasons for this; the knee-jerk reaction of an instant country-wide lock down ordered by the Modi-government contributed in spreading both panic and virus across the country. BBC News reported on Sept 16, 2020 that India's "COVID-19 problem could be bigger than we think." It further stated, "The world's most draco-

nian lock down forced people to stay at home, shut businesses and triggered an exodus of millions of informal workers who lost their jobs in the cities and returned home on foot, buses or trains.” Dr Ravi Dosi who has treated more than 4,000 COVID-19 cases says, “it's unrelenting, we are exhausted.”

Pakistan, with its unstable political history, economic challenges, social differences and religio-sectarian issues usually gets a lot of flak in the international arena. The fact that it managed to control COVID-19 much better than its Eastern neighbour raised more than a few eyebrows. There were sceptics all over the globe questioning the quality of the tests, the authenticity of the data, the standard of medical care and the efficacy of local medicines and treatment. But WHO, that kept a sharp eye on these matters released the latest data on its “Country Office Website.” It was last updated on Oct 3, 2020 at 05:00 GMT+, according to which there are 553 new cases, 313,984 confirmed cases and 6,507 confirmed deaths. This could be because of the government's quick, not knee jerk, response to the situation. The strategy of “smart lock down” of COVID-19 hotspots seemed to have worked.

Brazil's economy shrunk by an “unparalleled 9.7 percent” in the second quarter of this year as it could not manage the fallout brought about by the pandemic. Hospitals faced a shortage of medicine, masks, gloves, and sanitizers. Local shops experienced shortage of items of daily use and medicines. According to the Ministry of Health, the number of infected persons will continue to grow exponentially until a cure is discovered.

The United States Coronavirus cases continue to rise, with California, Texas and Florida being on the top. At the time of writing, there are over 7,300,000 cases of COVID-19 and 208,000 virus related deaths.

Lessons

The key lesson that may be drawn from the above analysis is that while both governance and scientific capacity are necessary for successfully coping with the COVID challenge, they are not sufficient. Using the two capacities efficiently is the key explanatory variable for superior performance. But that ought to be a part of good Governance. Anyhow, the excellent Chinese, Korean and Japanese performance was due to having national level goals and uncompromising utilization of scientific capacity till the virus counts were reduced to levels where testing, contact tracing and quarantining could contain the virus. China did that with an authoritarian governing system. Korea and Japan did that with a democratic system using persuasion. The Europeans also followed the same methods using national level goals seeking reductions of virus counts to controllable levels. Sweden followed the herd immunity achieving strategy and is the worst performer in Europe. Surprisingly, for USA, that was the sole super power of the world for the last few decades and arguably the most powerful country in the world did not perform as well as expected. In fact, it was quite the opposite. The political imperatives of an upcoming election of a polarized two-party system distorted both strategizing and implementation. In mid-August 2020 the infected total is in excess of 5.5 million and the mortality count is more than 175,000. The projected mortality estimate for end of August is 200,000; and 300,000 by November 1. Brazil is a close second to the US for number of infections and deaths even though it does have a national plan. The remaining Latin American countries are closely behind Brazil.

It is true that the virus is still out of control in many countries. Resurgence in the fall season may happen. So far, there is no vaccine or an effective therapeutic solution. This battle for all countries is continuing.

The bigger challenge from global warming is also continuing in parallel. The slowdown of economic activity globally has temporarily reduced the level of carbon emissions as well as other chemical pollution. The US withdrawal from the Paris Accord of 2015 and the climate-unfriendly policies of the current US administration pose major risks on the challenge from global warming. The most harmful recent policy shift is US de-regulation of controlling methane leakages during fracking and national supply of natural gas. The challenge from global warming is many times larger than the challenge from COVID-19. To successfully meet it will also require scientific capability and good governance.

Part II- Climate Change

What are the main findings?

The Intergovernmental Panel for Climate Change (IPCC) was created in 1988 and has produced five Global Assessment Reports since. The latest was finalized in 2019 after five years of work by 104 Climate scientists and reflecting findings in 6,981 studies.

Global warming is unequivocal, and since 1950 the observed changes are unprecedented. The atmosphere and oceans have warmed, the amounts of snow and ice have diminished and sea levels have risen. Each of the last three decades have been successively warmer than any decade since 1850. The period from 1980 -2010 was the warmest 30-year period of the last 1,400 years in the Northern Hemisphere. The global average of land and ocean surface temperature data shows a warming of 0.85 degrees centigrade over the period 1880-2010. Ocean warming dominates the increase in energy stored in the climate system, accounting for more than 90 % between 1970-2010; with only 1 % stored in the atmosphere. Since the beginning of the industrial era, oceanic uptake of carbon dioxide has resulted in the acidification of the ocean with 26%

increase in acidity, measured as hydrogen ion concentration.

During 1990-2011, the Greenland and Antarctic ice sheets have been losing mass, likely at a larger rate from 2002 to 2011. Glaciers have continued to recede worldwide. Northern Hemisphere spring snow cover has continued to decrease in extent. Permafrost temperatures have increased in most regions since the early 1980s in response to increased surface temperature and changing snow cover. The mean Arctic-ice extent decreased over the period 1979-2012, with a rate that was likely in the range of 3.5 to 4.1% per decade. Arctic sea-ice extent has decreased in every season and in every successive decade since 1979, with the most rapid decrease in decadal mean extent in summer. Over the period 1901-2010, global mean sea level rose by 0.91m. The rate of sea level rise since the mid-19th century has been larger than the mean rate during the previous two millennia.

What is its Impact on Pakistan?

A recent National Atmospheric Science Agency (NASA) study² makes a stunning forecast. The ice in one of the world's highest concentrations of glaciers could see significant melting before the end of the century, potentially affecting sea levels around the globe, according to a new computer model from the NASA Sea Level Science Team. The region, known as High Mountain Asia, could see ice loss run from 29 to 67 percent, depending on the level of greenhouse gas emissions over the period modeled. According to the study, water flow in monsoon fed river basins, driven largely by melting glaciers could hit its peak by 2050-potentially reducing runoff beyond that time and requiring changes in how water is consumed and forcing communities to find other water sources (if possible). Understanding the coming changes in such flows is critical to proper planning for hydropower, irrigation and water supplies in Pakistan.

This is a significant advance in Glacier modeling. The Python Glacier Evolution Model PyGEM used extensive data sets, instead of less detailed estimates from isolated, regional effects or extrapolations based on a small number of glaciers. This is a significant advance over previous models. With PyGEM, it is possible to assess changes in glacier mass at an unprecedented rate. The fourth IPCC, (2007), had used a less dense data base and predicted that the Himalayan glaciers are likely to melt by 2035. Analytical work done at Princeton university criticized the paucity of the data base and the final IPCC did not include that prediction in its final Report.

The Indus Basin Model used by the World Bank in 2015 used the then available data and made the following observation, “The hydrology of the glaciers in the Upper Indus Basin (UIB) must be treated differently. The mountain ranges encircling the Tibetan Plateau are a complex highland lowland hydrological system involving a range of water supply and use environments. The contributions of mountains to the total flow of the major rivers of South East Asia and the sources of runoff within individual mountain catchment basins vary through-

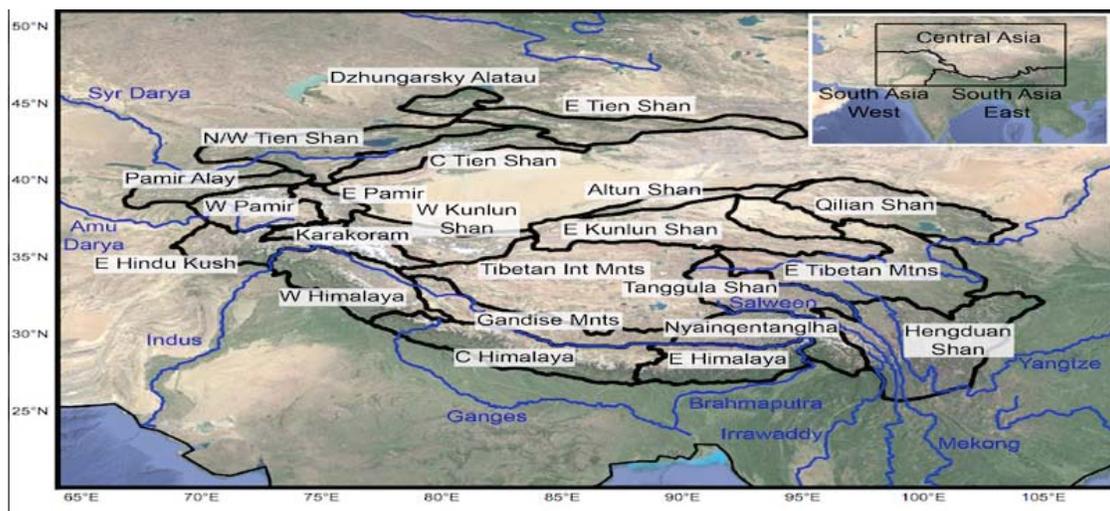
out the region. Preceding analyses (IPCC 2007), of the impact from climate change, retreating Himalayan glaciers and the role played by these glaciers in the rivers of Asia have highlighted how little the scientific community understands the role of the mountain headwaters (glacier melt, snow, rain) to the Asian rivers.”

Much of the present understanding of the climate, hydrology and glaciers of these mountains is based on a spotty analyses of a limited data base. In an area of over 160,000 sq. km above the Tarbela reservoir, there are only five hydrometric stations on the main stem of River Indus, and fewer than 20 manual climate stations. This density is significantly less than the World Meteorological Organizations’ recommendation of one gauge per 250 sq.km. Credible recent mass balance data is available only for a few glaciers in the Karakoram. The hydrometeorology and the glaciers of the Upper Indus Basin are not understood due to organic complexity of the three-dimensional mosaic of topo climate within the extreme terrain of the UIB—some glaciers are retreating while others are advancing.

This situation must be changed. It may be valuable

Map 6.1

The Himalayan Mountain Asia Region



Source: NASA and University Grenoble Alpes

to arrange formal collaboration between Pakistan's Global Change Impact Studies Center (GCISC)³ and the NASA Sea Science Team. The NASA Sea Science Team, inter alia, works on the PyGEM Model which collects data of glacial mass changes in 95536 glaciers through the Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER) aboard NASA's Terra Satellite. The observations cover every glacier in the High Mountain Asia which covers an area of 98,000 sq. km.

By sheer number, the Himalayan Mountain Range contains about 44 percent of all glaciers in the world—excluding the Antarctica and Greenland ice sheets which contain most of the global glacial mass. The melting of these glaciers contributes significantly to the observed sea level rise. However, on the way to the sea the glacial melt provides sustenance to billions of people in South and East Asia. The Indus river supplies water to the largest contiguous irrigation system of the world and contributes to food supply for 200 million plus citizens of Pakistan. Map 6.1 shows the High Mountain Asia region. All the rivers which flow into South and East Asia—The Indus, Ganges, Brahmaputra, Yangtze, Mekong, Salween, and Yellow, originate in this glacier-rich region and support close to 2.5 billion people of the region.

Progress and its Pre-requisites

While Pakistan is not a significant global contributor to greenhouse gases, it has no choice but to prepare to face the consequences. Optimizing the utilization of water resources in the Indus Basin should be in our higher priorities—if not the highest. To meet the challenge of this priority requires evaluation of options with a 50-year perspective. Pakistan's population is increasing while the water supply is fixed, or likely to decrease due to Climate Change. The Indus Basin is already experiencing water scarcity. A recent estimate puts water availability at

below 1000 cubic meters per capita. The United Nations medium population projection puts Pakistan's population at 246 million and 335 million for 2025 and 2050 respectively. This translates to water availability of 711 and 522 cubic meters per capita for 2025 and 2050 respectively.

Expressed simply, the population of Pakistan will continue to increase by 5 million every year. This means that the Indus Basin will need to produce adequate food, fuel supply and exports against the backdrop of declining per capita availability of water.

Recent World Bank studies have suggested that “there are no feasible interventions which would enable Pakistan to mobilize appreciably more water than it now uses. On the other hand, there are significant possibilities for lower water availability due to reduction of runoff.” Pakistan's water productivity in agriculture is at the low end in the world country league. Water productivity must be seen in an inter-sectoral context as Pakistan urbanizes and non-agricultural claims on water increase. For Pakistan's current water productivity both as an absolute, and in an inter-country context (See Figure 6.5). With the inevitable increase in urbanization, water availability to the agricultural sector will decrease further. Increasing water productivity via water pricing policy; water conservation investments in agriculture, urban and industrial water supply; and cropping pattern changes will be needed on a high priority basis for Pakistan to meet its needs for sustainable development as a water stressed country with increasing population.

To address the effects of Climate Change national efforts began in the late 1980s and after three decades of effort 195 countries formally agreed to work together the 2015 Paris Accord. The Paris Accord was negotiated by the previous US administration. But, as we know, the current US administration has withdrawn from it. Lukewarm national

efforts by other countries are continuing. Some are waiting for an administration change in the US. The lessons from our analysis of the ongoing experience with COVID-19 are that Scientific Capability and Good Governance produced success in many countries. That is also the way to meet the far greater challenges from Climate Change.

Pakistan begins with a disadvantage. Its scientific capacity in R&D is only 74 thousand and its normalized capacity is 336 per million of population. In our analysis sample Pakistan ends up at the bottom of the country league on this index. Twenty-five years ago, The South Commission, under the guidance of Nobel Laureate, Dr Abdus Salam, had developed an Action Program for developing countries to achieve diversified scientific capacity by working side by side on four overlapping subsets:

- A. Basic Science
- B. Applied Science
- C. Classical technology based on the science we know
- D. Future technology based on science of tomorrow.

For Pakistan, Dr Abdus Salam recommended that while it is partially developed in “B and C” above, it

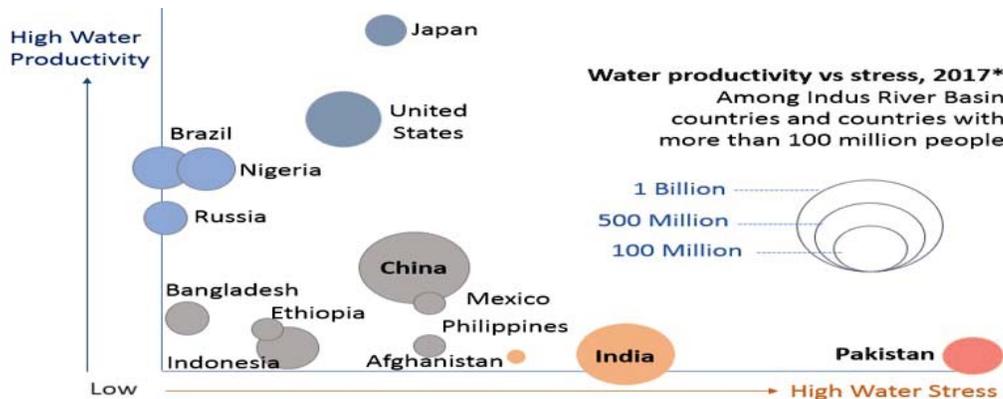
needs an accelerated program to develop capacity in both “A” and “D” while continuing to significantly expand its capacities in “B and C”. He maintained that Pakistan and other developing countries cannot leave “D” for only developed countries. He mentioned – Material Sciences, Climate Sciences, Molecular Biology, Virology, Biotechnology, Robotics, Quantum Mechanics, Artificial Intelligence, Quantum Computers, Plasma Technology - as a sample for tomorrow's science. He said that in an increasingly globalized world the competitive distinctions between countries will be in terms of their scientific and technological capabilities. He emphasized that “basic” and “applied” sciences are synergistic and must co-exist. Technology Development and incorporation in products and services cannot proceed unless based on domestic Scientific Capability. So, it is not just the challenges of COVID-19 or Climate Change, Sustainable Development itself requires the presence of adequate domestic and diversified scientific capacity.

Pakistan did not make a determined effort to follow Dr Salam's development plan for several reasons; political compulsions, resource constraints and negligence being just a few of them. Mean-

FIGURE 6.5

Water Productivity and Water Stress

Countries with high water stress (those withdraw too much from their system) And low water productivity (those deriving little economic value from the water They take) are more likely to damage ecosystems and go thirsty during droughts.



Source: National Geographic Magazine, July ,2020, Page 75

while—South Korea implemented the recommendations of the South Commission. In 1996, Korea had a Science & Technology in R&D capacity of 2,600 per million population. And so, had already been moving on the recommended growth path. Today, South Korea's normalized capacity is 7,500 per million and in a global comparison it is behind just two Scandinavian countries - Denmark and Sweden. As we can see, beyond its economic development, in its performance with COVID-19, it flattened the curve effortlessly. China did the same. Today, China has the highest total capacity in Science and Technology in the world with 1.76 million scientists in R&D with the US a distant second with a capacity of 1.4 million. The future belongs to those with such capacity provided they also have an adequate governance.

Policy Recommendations for Pakistan

Dr Salam's advice remains relevant today for Pakistan. We should dust up the South Commission recommendations and try to follow the example of South Korea and China. The climb will be steep, but that is necessary. While, Dr Salam is not with us now, we have one other Pakistani—Dr. Nergis Mavalvala, the recently appointed Dean of Science at MIT—a first for a woman; a first for a Pakistani woman. Her claim to scientific prominence is from

her seminal work with the Laser Interferometer Gravitational Wave Observatory (LIGO) which is a large-scale physics experiment and observatory to detect cosmic gravitational waves as an Astronomical tool. This laboratory managed to detect the gravitational waves predicted by Albert Einstein's General Theory of Relativity. As the first woman Dean of Science at MIT, Dr. Nergis is an inspiration for potential scientists in Pakistan.

The late President Roosevelt wrote to Vannevar Bush asking him to address how to promote civilian innovations that arise from military research and how could the government aid in the task of, “discovering and developing scientific talent in American youth?” This query is relevant to today's Pakistan.

Finally, it maybe concluded that we need to study and understand the glaciers in the Himalayas by working closely with NASA and other international agencies that are involved in these endeavours. The Planning Commission should be given the responsibility to device plans for Sustainable Development. This can be done by encouraging local scientists to find ways to combat Climate Change in Pakistan, create jobs by encouraging reforestation, building reservoirs to store water, creating proper waste management strategies and switching to renewable energy sources.

Annexure-I

COVID-19

Country Performance and Scientific Capacity Data

For period January 01 to August 15, 2020d

| Country | Cases Col 1 So far | Deaths Col 2 So far | Cases Col 3 per 100 thousand population | Deaths Col 4 per 100 thousand population | Scientific Capacity Col 5 per million population | Rank Col 6 Capacity per million | Rank Col 7 Cases per 100 thousand | Rank Col 8 Deaths per 100 thousand |
|-------------|-----------------------|------------------------|--|---|---|------------------------------------|--------------------------------------|---------------------------------------|
| Pakistan | 288,047 | 6,162 | 130 | 3 | 336 | 17 | 4 | 4 |
| India | 2,589,952 | 49,980 | 188 | 4 | 253 | 18 | 5 | 5 |
| China | 89,279 | 4,703 | 6 | 0 | 1,225 | 15 | 1 | 1 |
| South Korea | 15,318 | 305 | 30 | 1 | 7,498 | 3 | 2 | 2 |
| Japan | 55,051 | 1,093 | 44 | 1 | 5,304 | 6 | 3 | 3 |
| USA | 5,361,165 | 169,480 | 1,627 | 52 | 4,245 | 11 | 18 | 14 |
| Canada | 123,825 | 9,072 | 327 | 25 | 4,264 | 10 | 10 | 11 |
| UK | 319,232 | 46,791 | 470 | 70 | 4,341 | 9 | 13 | 18 |
| Brazil | 3,317,096 | 107,232 | 1,561 | 51 | 888 | 16 | 17 | 13 |
| Russia | 915,808 | 15,585 | 628 | 11 | 2,822 | 13 | 14 | 9 |
| Germany | 224,488 | 9,235 | 268 | 11 | 5,003 | 7 | 8 | 10 |
| France | 252,942 | 30,410 | 388 | 45 | 4,450 | 8 | 11 | 12 |
| Italy | 253,438 | 35,392 | 419 | 59 | 2,245 | 14 | 12 | 16 |
| Spain | 342,813 | 28,617 | 733 | 61 | 2,855 | 12 | 15 | 17 |
| Sweden | 84,294 | 5,783 | 835 | 57 | 7,597 | 2 | 16 | 15 |
| Denmark | 15,853 | 621 | 274 | 11 | 7,899 | 1 | 9 | 8 |
| Norway | 9,965 | 261 | 184 | 5 | 6,489 | 5 | 7 | 6 |
| Finland | 7,720 | 333 | 139 | 6 | 6,722 | 4 | 6 | 7 |

Source: John Hopkins University /COVID Resource Center; Time. Com/ COVID Dashboard; UNESCO Institute of Statistics; United Nations. and the United Nations

Chapter

7

**Jurisprudence in a Pandemic:
Pakistan's Legal System in
Unchartered Waters**

Jurisprudence in a Pandemic: Pakistan's Legal System in Unchartered Waters

Barrister Afan Khan

Introduction

The COVID-19 pandemic is the first global pandemic since the Spanish flu of 1918. As such it is the first occasion that an independent Pakistan has had to deal with such an outbreak. The pandemic has had effects in all walks of human life and will no doubt continue to do so even after it recedes. The effects on various areas and industries has been discussed at some length elsewhere in this report. This chapter will look at how Pakistani legal system faces this once in a century challenge. Not only is this independent Pakistan's first pandemic, it is the first time such an occurrence has happened since the rise of the regulatory state in the second half of the 20th century. For that reason, I felt it appropriate to examine how the Pakistani legal system has attempted to cope with the current crises.

As the entire planet began to shut down in mid-March of 2020, Pakistan's Bench and Bar; both notoriously hidebound and conservative institutions, found themselves in a perplexing and alien world for which they had no precedent. This chapter will look at not only the immediate response of the legal system to the crises, but in its attempts to manage and regulate the response.

As the virus spread, Pakistan's legal framework

proved woefully inadequate to deal with the myriad challenges that emerged. In order to enforce lockdowns and quarantines, officials found themselves dusting off half-forgotten Raj era Epidemic Statutes, reinterpreting Public Order Laws and at times issuing orders and regulations without any apparent lawful power. These laws (especially the colonial ones) are generally not suited for the modern world and especially for an independent-democratic country. The various provincial legislatures attempted to remedy this by passing and consenting to emergency legislation, but the efficacy of these will not be known for some time.

As the pandemic induced economic woes worsened, the various jurisdiction attempted to stave off catastrophe by banning evictions and the withholding and reduction of wages and layoffs. These seemed to be in excess of their powers and have led to Court challenges. These lacunae in Rent and Labour Laws exist in two politically fraught areas of law and amendments will be challenging to introduce.

Amongst the numerous post pandemic challenge that need to be tackled includes litigation over pandemic era and affected contracts and over the return of assistance funds obtained by private

enterprise from the Government.

The Legal Framework

Pakistan's Federal structure sets up a Central Government and legislature of limited and enumerated powers. Generally, unless the Constitution specifically provides the Federal Government and Parliament the power to legislate on a certain topic, it is reserved to the Provinces. Public Health is one such area which is so reserved. The Constitution does foresee the need for inter provincial coordination on various matters¹ and therefore at the Federal Level a Ministry for National Health Coordination exists.

The legal situation as the outbreak became a pandemic was complex and at times byzantine. Legislation regarding diseases date back to the time of British India. In 1897, following an outbreak of Bubonic plague in Bombay², the Colonial legislature passed the Epidemic Diseases Act 1897³ (which remains in force in the modern Indian Republic today and has been used in the present COVID-19 crises)⁴. This Act, that was fairly narrow in its scope permitted the governments in the case of an outbreak, to take measures and by notice prescribe regulations which were deemed necessary in order to prevent the outbreak and spread of the disease⁵. In 1958, the Assembly of West Pakistan replaced the 1897 Act, with a new statute, the West Pakistan Epidemic Diseases Act 1958 (Act XXXVI of 1958)⁶, which despite the name and the title, essentially reiterated the provisions of the erstwhile enactment. Upon the dissolution of one unit in 1970, the successor provinces each inherited this law (suitably renamed). In 2014, Sindh replaced the 1958 Act with the Sindh Epidemic Diseases Act 2014 (Act VIII of 2015)⁷, which like its predecessor mostly reenacted the 1897 Act, although it did expand and specifically enunciate the powers of both the provincial Government and local officials.

In addition, there are disaster management laws at the federal and provincial levels. Of the former, the most important and relevant was the National Disaster Management Act 2010 (Act XXIV of 2010)⁸, passed in the aftermath of that year's mega-floods. This setup a National Disaster Management Authority at the Federal levels⁹, with the responsibility¹⁰ inter alia of coordinating national response to disasters, managing the national disaster effort, setting up regulations and guidelines for dealing with various disasters and providing needed assistance as well as creating and maintaining a “National Disaster Plan”¹¹. The National Authority was to be replicated at the provincial¹² and district¹³ level, with responsibilities mirroring¹⁴ those of their Federal counterpart, including formulation of a disaster plan¹⁵. At all three levels, officials responsible for various departments and subject matters were ex-officio members of the Authorities. The Authorities and the Federal, Provincial and District Governments were empowered to take measures as was deemed necessary and proper to handle a crises, and the Act permitted the Authorities at all levels to make emergency purchases of needed materials, including to waive ordinary rules and regulations governing procurement and to requisite necessary resources. Predating the National Disaster Management Authority (NDM) Act, 2010 and now acting complementary¹⁶ to it was the National Calamities Act 1958 (Act XXXIII of 1958)¹⁷, which was another West Pakistan Assembly act, inherited by the provinces and still in-force. Unlike the NDM Act, the Calamities Act did not establish permanent bodies at different levels of Government, nor were detailed plans to be maintained to put into action when the need arose. Rather the Calamities Act would be triggered “Whenever the Province or any part thereof is affected or threatened by flood, famine, locust or any other pest, hailstorm, fire, epidemic or any other calamity”¹⁸. The act created the temporary office of “Relief Commissioner¹⁹”, which would come into being when a calamity was

declared in a province or part of a province. It is perhaps surprising, that the Calamity Act continued in force, after the enactment of the NDM Act; indeed, during the 2015 floods there was confusion as to which legal provision would hold the field²⁰. It does appear however, that during the present crisis it has been the NDM Act which has been widely used by the government.

Finally, Pakistan has a plethora of laws intended to maintain public order and peace, the most prominent of which is the perhaps infamous Section 144 of the Code of Criminal Procedure, 1898. As we shall see all of these have been conscripted into service by officials at all levels.

A deficiency, that became apparent very early on was the fact that most of the aforementioned provisions, seem to be predicated on an emergency being limited in time and space. What faced officials in Pakistan in the early spring of 2020, was a simultaneous and generalised global shutdown of economic and social life, unprecedented in modern history. It is fairly likely that officialdom had never conceived of such an eventuality, or if they had, they never expected to have to deal with it. For this reason, the response of the various provincial governments was confused and uncoordinated. This was exacerbated by the confusing and overlapping legislation on the subject that we have considered above. A particular provision might have covered one aspect, there was no overarching code, procedure or regulation that could be brought into action. Worse still in some cases, the laws flatly contradicted each other.

The first major mitigating step was taken by the Sindh Government when on 14th of March, 2020²¹ when they directed that educational institutes, marriage and banquet halls, religious and social congregations and public gatherings generally be banned for a period of three weeks. This direction (which was sent to the various divisional and deputy

commissioners in the Sindh province) did not in fact refer to any of the laws discussed above. Rather it was left to the individual Commissioner's discretion as how best to implement these directions. For example, the Commissioner Karachi's Order²² of the same date, issued to enforce the above decisions, relied on powers under the administrative General Causes Act instead of NDM Act or Epidemic Diseases Act, or even Section 144. Earlier the federal government had shut the border crossing at Chaman²³, and instituted health checks on incoming travellers at all major international airports²⁴. The federal government's actions were taken using its powers to regulate Immigration and Customs rather than the epidemic or disaster laws. Later all international flights would be indefinitely suspended²⁵.

Lockdown by Province

Sindh

The Sindh government increased its restrictions on 17th March, and then on 22nd March²⁶ implemented a full province wide lockdown. This lockdown which affected all of public life except for specified essential services. This would be the first such major lockdown in Pakistan, at a time when the federal government seem disinclined to go for such a draconian and far reaching measure. The notification of 22nd March expressly mentioned the 2014 Sindh Epidemic Diseases Act as the enabling provision. It further empowered Commissioners and Deputy Commissioners in the province to undertake necessary measures for the implementation of the lockdown. A perusal of this notification reveals that it is much more extensive and all-encompassing than any other prior notification. While the Sindh Act itself gives the provincial government vast powers to deal with an outbreak including the power to issue restrictions and regulations, it is quite clear that the framers of the Act did not foresee such extensive and far ranging restrictions. Nor did the Act seem to provide for delegation of such powers

and their enforcement to lower levels. These ambiguities caused uncertainties which led the Sindh government to decide to amend the Epidemic Diseases Act through an Ordinance²⁷ promulgated on 13th May 2020²⁸. This enactment formalised the delegation of powers to lower levels including Assistant Commissioners at taluka (county) Level. It also provided for expanded penalties including heavy fines and jail terms for failure to adhere to lockdown restrictions.

Punjab

The Province of the Punjab entered into a lockdown in late March of 2020. The initial, piecemeal actions, had employed a variety of legal instruments in order to take measures which the Government adjudged to be appropriate to preserve public health in the province. For instance, on 19th March 2020, the Punjab government directed all of its regional transport authorities to ban all interprovincial transport, especially between Punjab and Sindh²⁹. When the Punjab entered a full lockdown, on 23rd of March, it employed Section 144 of the Code of Criminal Procedure 1898.³⁰ This Section, which is the basic public order provision of the Criminal Code empowers the District Administration to issue orders in public interest. These include bans on a specified activity for a particular period of time (which ordinarily cannot exceed two months). This section is regularly employed by police and district magistrates to maintain public order and tranquilly during times of political turmoil and sectarian tensions. While, the section does mention safety and health, using this did raise eyebrows amongst some legal and constitutional scholars³¹, who argued that the Section was being used in a manner which far exceeded its scope. Perhaps mindful of these criticisms and concerns, the Punjab government promulgated an ordinance, 'The Punjab Infectious Diseases (Prevention and Control) Ordinance' 2020 (Ordinance II of 2020)³². This ordinance, repealed the Epidemic Diseases Act as far as it applied to the

province of Punjab. Unlike, the 1958 Act, this Ordinance is heavily detailed and provides specific enumerated powers to the government. For instance, Section 3 permits the Secretary Health, to declare a Health emergency or an imminent threat of one, Section 4 grants the same officer the power to direct all registered medical practitioners and health facilities to treat record and communicate cases of infection. Section 5 permits a person or a class of person to be detained, kept in isolation, disinfected or ordered to abstain from working or trading. It further gives government officials the power to prohibit or restrict events and gatherings, the power to seal or restrict entry or exit into a premise, or a general area, control the movement of potentially infectious persons and direct them to undertrain and undergo screening and assessment. Most controversially, for the first time, all persons have the duty to inform medical officers if and when they believe or have reason to believe someone is suffering from an infectious disease. All this is backed up by penal sanctions for failure to adhere to directions, restrictions and reporting duties under the act. The Ordinance also ousts the jurisdiction of civil courts to review decisions made by officials. However, affected persons may approach a board consisting of the Commissioner and a notified Medical Officer for redressal of grievances.

Since it was promulgated, most Government of Punjab decisions regarding lockdowns have been based upon the new Ordinance. As it would automatically lapse four months after its promulgation, a bill was introduced in the Punjab assembly to make the changes in law permanent and this was accomplished on 17th August' 2020.

Balochistan

The province of Balochistan began to enter into a complete lockdown on 22nd of March, 2020³³. This notification simply directed a shutdown of various industries and public areas and instructed local

authorities to implement it without citing a particular provision of law. This has however been interpreted to mean that the Balochistan government is relying upon the 1958 Act³⁴. Balochistan is home to two of Pakistan's busiest land border crossings specifically, Taftan and Chaman, both of that are near Iran, which was an early epicentre of the outbreak. The Federal Government had set up quarantine facilities near both these crossings and in early March as mentioned above, shut them to traffic. Prior to this the provincial government had also closed schools in February, having begun the process of shutting down public life in the province, the government in Quetta proceeded to finally implement a full lockdown on the 23rd of March³⁵. The notification like the one issued the previous day, specifically referred to Section 144, as was the case in Punjab. This has continued, and future notifications amending modifying or ending restrictions have all used Section 144 as their authority. Quetta, has not deemed it necessary to promulgate an emergency ordinance like the authorities in Lahore. Nor have they at the time of writing, gone for new legislation through the assembly. It is clear that the Balochistan leadership feels that it is able to manage by remaining within the ambit of the pre-existing legal framework.

Khyber Pakhtunkhwa

In the years prior to the outbreak, KPK had been undertaking a substantial and far reaching reform and rebuilding of its health system since the Pakistan Tehreek-e-Insaf government (PTI) was elected to office in 2013. One of the pillars of this reform was the Public Health (Surveillance and Response) Act, 2017³⁶. This Act created a province wide public health committee, with broad powers including inter alia the power to declare a public health emergency, ensure availability of necessary equipment and devices in the province, the power to take appropriate measures to deal with a health emergency and the power to make arrangements for implementation of

recommendations from international health organisation. Furthermore, the Act created disease surveillance centres at the district level. These centres were to collect and analyse information received about disease outbreaks within the limits of their jurisdiction and to make and manage outbreak of diseases and health hazards within their areas of responsibility. Finally, the act also made it mandatory for doctors to notify these health centres about unusual symptoms being displayed by patients under treatment and also the outbreak or suspected outbreak of communicable diseases.

Existence of this Act meant that in the Public Health Commission declared a public health emergency in the province on March the 3rd³⁷, making it the first province to make such a declaration. The KPK government has in addition been employing the NDM Act³⁸. Still, officials at district level have made recourse to Section 144, to implement the directives coming from Peshawar, for instance in Abbottabad³⁹. A perhaps unique solution was also utilized; the provincial government started, in the early days of the lockdown, to declare public holidays in lieu of restrictions on public gatherings. The effect of this was to shutdown markets, parks, playgrounds and other areas of public gathering and recreation. Like their counterparts in the Punjab, the KPK government decided to promulgate an emergency ordinance that is the Epidemic Control and Emergency Relief Ordinance 2020. It is very similar to the Punjab Ordinance, in some cases reproducing provisions verbatim. It grants the provincial government the power to declare an infection threat, require all medical professionals to treat, record and communicate Cases of infection, the power to impose general restrictions and requirements including the power to direct the mandatory medical examination, disinfection, treatment and quarantine of persons or a class of persons. It allows officials to seize and destroy suspected contaminated articles, to ban or restrict attendance in public places, close schools and regulate burials. Officials can ban

gatherings and public events and public movements and seal or restrict entry into or from any premises and to restrict and control the movement of potentially infectious persons. The Ordinance also grants medical officers the additional power to add restrictions on suspected infected persons as they deem proper and necessary, the reporting requirements of the 2017 Act have been retained and, in some ways, expanded. It has been extended to all private persons. This Ordinance, as we shall see, does not limit itself nearly to providing appropriate tools to combat outbreaks but as the title itself suggests, also provides for relief of affected persons and areas.

These changes in law were made permanent in July 2017 when the Governor KPK gave his assent to the Epidemic Control and Emergency Relief Act 2020⁴⁰.

Islamabad

Islamabad is a federal territory under the constitution of Pakistan. It is known as the Islamabad Capital Territory or ICT and has a devolved mayor and municipal administration. Public health and public order, however, remain reserved to the appointed bureaucrat known as the District Commissioner Islamabad. This officer has made use of Section 144 in implementing lockdowns and giving directions for public health. The first example of the use of Section 144 was on 21st of March 2020 when restrictions were placed on the opening of malls, department stores and other large public gathering places and the public were advised to avoid meetings of more than five people. This was followed by a much larger and more restrictive order on the evening of 23rd of March, whereby almost all public life in the territory came to a standstill. Once the general restrictions were eased and lifted, Section 144 was used to implement a series of “smart lockdowns” whereby identified hotspots were sealed. Islamabad Administration has also made use

of the Epidemic Diseases Act 1958.

Rent and Labour Laws

As the country entered a lockdown in March, it faced a situation where the shutdown of economic activity adversely affected the large working class. Compounding this was the fact that in urban areas many people rented their accommodations and losses of salaries and wages meant that a large number of persons were at risk of defaulting and being evicted. This has been compounded by the fact that over the last two decades, the various provincial legislatures have reformed their rent laws. Generally, the trend has been to reduce the protection for tenants and to make it easier to evict defaulting ones. With wages at risk, there was a danger of a spate of evictions and homelessness.

The various Governments swiftly moved to provide relief. The Balochistan Government moved first on 24th⁴¹ of March when they restricted the collection of rents in the province for a period of two months. The Punjab Government went further, banning the eviction of tenants for a period of two months⁴², on account of non-payment or delay in payment of rent “without the due process of law”. This was a puzzling action since as legal commentators pointed out, it was already illegal under the Punjab Rented Premises Act 2009 to evict tenants involuntarily without first obtaining an eviction order from the Rent Tribunal set up under the Act. In essence the notification did not add any new protections for affected tenants.

At the same time, Sindh, using the 1958 Act, barred employers from sacking workers or withholding their salaries⁴³. Islamabad would follow suit on 31st March when the Chief Commissioner of Islamabad Capital Territory banned the layoff of workers or deduction of wages during the lockdown⁴⁴, in this case, using the 1958 Act as the basis of action.

These notifications, perhaps not unexpectedly,

received pushback from Industry. The Sindh regulations would be challenged before the High Court of Sindh, by the Employers Federation of Pakistan, an industry group representing the interests of various Employers in Pakistan⁴⁵. The group claimed that the notification violated existing labour laws and the Constitutional provisions of right to conduct business. During the pendency of the Petition, the Sindh Government promulgated the Sindh COVID-19 Emergency Relief Ordinance 2020 (Ordinance III of 2020)⁴⁶. This replaced the aforementioned Notification with a graduated scheme whereby an increasing percentage off an individual salary could be withheld depending on the person's monthly income; increasing monthly income meant an increase in the percentage production is permitted. This new regime failed to satisfy the High Court Petitioners who announced that they would persist with their challenges.

The Punjab government for its part did not announce a province-wide ban on dismissals and withholding of salaries. This led to a multitude of workers being laid off in April. Various Trade Unions challenge this in the Lahore High Court requesting that the Punjab government create protections for workers similar to those found in Sindh and Islamabad⁴⁷, the matter remains sub judice at the time of writing.

Post Pandemic Complications and Reforms

The effects of the pandemic are likely to be long lasting. The American writer Thomas Friedman, has written that the world is now divided into a “BC era” for “before Corona” and “AC era”, for “after Corona⁴⁸”. This article deals with the before Corona situation, and also elucidates what happened in between these two putative eras, what may be called “during Corona” (DC). Still, the gaps in legislation, rules, regulations and procedures which this pandemic has revealed will not go away once we enter the AC era. Here at least, efforts can be made to

ensure that the future leaders and officials are not as ill-equipped and ill-prepared as the current lot were in March 2020.

The lockdowns will affect the legal system in another way, which is the impact of the shutdowns on contractual obligations. This has already been the subject of discussion in law journals⁴⁹. The pandemic might be what is called in the legal profession a force majeure, which is a contractual clause which frees parties to a contractor obligation from liability when an extraordinary or unforeseen event, beyond the control of the parties occur, preventing the fulfilment of the contract.

During the Spanish Flu outbreak, the courts in the United States held that if a contract had a specific force majeure, a quarantine or a lockdown would trigger it⁵⁰. In 2003, the Chinese Supreme People's Court issued guidelines permitting force majeure be raised by parties during the SARS Epidemic⁵¹.

Pakistani courts have defined force majeure as events, outside the control of both parties that affect or prevent their performance of their contractual obligations⁵². Pakistan has not as of yet ratified the United Nations Convention on the International Sales of Goods⁵³. This convention, harmonises the legal framework governing international trade in goods between private parties based in member states. The Article 79 of the convention lays out the circumstances when force majeure applies; it is for subsequent events which are unforeseeable and make performance difficult. Clearly, the outbreak and the lockdowns were not foreseeable and since many of Pakistan's foreign partners are signatories to the convention, it is likely that the said convention will apply in several international contracts despite Pakistan ostensibly not being a party. While contracts executed before the outbreak probably will be hit by force majeure clauses, it's not at all certain what the fate of contract signed during the subsistence of the pandemic will be. At the time of

the SARS epidemic, Chinese courts refused to accept pleas of force majeure, for contracts that were signed after the start of the outbreak⁵⁴, on the ground that it was now a foreseeable thing. As the pandemic at the time of writing (September 2020) shows little sign of abating, this is a question likely to come up more frequently.

Where force majeure does not apply for instance when a specific clause is absent in the contract, the related but distinct common law doctrine of “frustration” may apply. This doctrine, which has been given statutory footing in Pakistan by virtue of section 56 of the Contract Act 1872, holds that an unlawful or impossible contract can be discharged. The protections under the doctrine of frustration, are much more limited in scope. The party claiming frustration must show that the contract has become impossible to perform⁵⁵. Mere difficulty or onerousness cannot be used as a ground to invoke this doctrine. The High Court of Sindh has recently confirmed that impossibility means “physical impossibility”, a contract which has become commercially impossible cannot be discharged under frustration⁵⁶. In certain types of industries there will be little or no distinction between the two; for instance, in the construction industry⁵⁷, or freight services⁵⁸, but elsewhere it may not be so clear. For example, a contract to develop and provide software might be possible to perform under lockdown, but it will inevitably suffer from delays, increased costs and greater complexity, cumulatively all these make it commercially unviable. Under the case law that has developed in Pakistan, such a contract would still be enforceable. It is very clear that these issues will impact business confidence going forward. Pakistani policymakers would do well to plan for this. It is certainly an area which cries out for statutory reform and innovative thinking. One such way could be by passing legislation permitting contracts made economically unviable by the COVID-19 to be discharged by the parties, regardless whether force majeure, or frustration applies.

Perhaps with a time limit for parties to exercise their rights and restitution to be made for costs and benefits already had.

At the end, it would be appropriate to have a short discussion on the legal issues arising from the federal governments various relief packages for industry and the public. While many of these will be of issues in areas we have considered elsewhere, in this work, there are a few points worth considering. In March 2020, the Prime Minister unveiled a 1.2 trillion rupees relief package⁵⁹. This was to be only the first of many such initiatives. The State Bank of Pakistan, started the Rozgar Scheme⁶⁰, in order to provide payroll support to businesses and to prevent the mass layoffs of workers. This scheme, which has been extended till end of September 2020, had by mid-July, provided support for 1.2 million employees totalling some 125 billion Pakistani rupees. The repayment of these loans will begin in January, 2021 and will be due over the next eight quarters⁶¹. The State Bank, has also introduced a relief scheme for households and small businesses and provided loans for hospitals and medical centres⁶².

In a country where the supply of credit is precarious at the best of times, these are certainly welcome steps. However, the financial systems legal framework is outdated and may not be able to deal with such a large expansion in the volume of new borrowers. Pakistan lacks a bankruptcy law, despite many years of lobbying by businesses. Most of these loans' schemes elucidated above, begin to require repayment sometime in 2021, although in some cases this has been deferred to the middle of the decade. The federal government has also assumed up to 60% of the risk for the Rozgar Scheme. Along with the risks of a second wave materialises the possibility of these measures proving insufficient, if indeed they already are not. Moreover, a flood of litigation is likely to emerge in the coming years as businesses and individuals who have taken

advantage of the scheme find themselves unable to repay the loans taken. Pakistan's banking laws, especially the Musharraf era Financial Institutions (Recovery of Finances) Ordinance 2001, are notoriously harsh on defaulters specifically and on borrowers generally. Unless amendments are made, the risks of mass default and limited recoveries grows.

Conclusion

As we have seen, the Pakistani legal system proved to be ill-equipped to handle the myriad of challenges that the COVID-19 pandemic brought. At every step, its response has been characterised by gaps in the legal and regulatory framework, paucity of institutional knowledge, uncoordinated response, patchy and haphazard measures to rectify deficiencies and most damning of all, an outdated and ill-suited legal environment.

In the United Kingdom, Parliament passed the comprehensive Coronavirus Act 2020⁶³, in order to provide both the Government at Westminster and the devolved administrations for Scotland, Wales and Northern Ireland, the appropriate powers needed to manage the crises. This Act, which is set to expire in two years, provided British policymakers with plethora of powers, including new policing powers to enforce lockdowns, to register medical students and retired practitioners as doctors on a temporary basis, safeguard sick pay and pensions, prevent evictions, and delay scheduled elections. While the Act has proved controversial, with civil liberties campaigners raising concerns over the broad ambit of the new powers given to authorities, it has proved on the whole rather successful.

Nothing similar has been promulgated or even contemplated in Pakistan. While constitutional separation of powers between the provinces and the Federal Government is greater in Pakistan, the

constitution itself provides mechanisms. Article 232-236 allow for the declaration of an emergency and give the federal parliament the power to legislate on matters outside its enumerated powers for the duration of the said emergency. In addition, under Article 144, upon resolution passed by one or more provincial assembly, parliament may pass laws on any topic even if that is not within the legislative competence of the Federal Legislature. Certainly, the latter option, being a non-unilateral (and permanent) one unlike emergency declaration may have had greater political support.

Yet, there is still cause for hope. Despite the many shortcomings in law it is clear that officials at all steps made good faith efforts to deal with the crisis, occasionally with notable successes. We have seen, the provinces enact necessary legislation on an emergency basis. At the federal level, coordination was finally achieved by the setting up of a National Command and Operation Centre, to coordinate the response of all federating units and to involve stakeholders⁶⁴. By most accounts, the NCOC has been pivotal in arresting the spread of the virus in Pakistan⁶⁵, and has brought all stakeholders and decision makers under one roof. This has expanded and complemented the work of the NDMA and should be made permanent through an appropriate Act of Parliament, in much the same way as the NDMA was after the 2005 earthquakes and the 2010 floods.

The COVID-19 pandemic has been an epoch marking event. It certainly will be one of the most important events of the first half of this century. At the time of writing as we remain in its midst, it is clearly premature to write its history. However, as we examine the events of the last few months, perhaps the successes and failures that have been seen can guide the policymakers in way that when the definitive history is written, it will be a positive one.

Chapter

8

**The COVID-19 Impact on the China
Pakistan Economic Corridor**

The COVID-19 Impact on the China-Pakistan Economic Corridor

Dr. Daud Ahmad

Introduction

This is the fourth coverage of the China Pakistan Economic Corridor (CPEC) in BIPP's annual reports. The 2017 report, provided overviews of the Belt Road Initiative (BRI) and its “flagship” CPEC component. The 2018 report provided progress update on CPEC implementation, basically coinciding with the end of the Pakistan Muslim League (PML-N) Government. The 2019 report covered the CPEC status under the new Pakistan Tehreek-e-Insaf (PTI) Government, which was in the process of reviewing and resetting the CPEC program. The COVID-19 pandemic, which started in early 2020, has created a whole new global situation of health and economic uncertainties. The situation is still in a flux; too early to assess its impact and outcomes. This Chapter attempts to summarize the implementation status of the CPEC to date and new developments and directions of CPEC under the PTI Government.

CPEC Program is currently referred to having as two phases: Phase I, started by the PML-N government in 2015 had primarily focused on energy and infrastructure as those were the critical needs of that time. While social and economic development were recognized as key objectives of the Program, not much physical progress was possible on these fronts. The new PTI government that came to power

in 2018, had faced severe economic challenges. Hence there was a need to take a fresh look at the formation, structure, composition and progress of the CPEC initiative. It also included the implementation arrangements and future direction that is poised to become a framework of regional connectivity. There was a shift of the focus of CPEC under Phase II from energy / infrastructure to industry, socio economics, agriculture and development of Gwadar Port. As such, the momentum on new ventures under CPEC slowed down during 2019. The onslaught of the global pandemic in early 2020 further complicated things as Pakistan, like all other countries, was faced with a new set of health, economic and financial challenges. This chapter covers the recent CPEC developments. The key findings / recommendations of the last three BIPP reports relating to CPEC are captured in the last section of this chapter. It is a desk study based on information available from different sources. The Government of Pakistan website is the main source of information on projects currently included in the CPEC program. Other information sources are the websites of the Chinese Embassy in Pakistan, and various other organizations like World Bank (WB), Asian Development Bank (ADB), etc.

Background

CPEC is a part of China's new global initiative, known as the BRI, which reflects China's grand vision of connectivity extending from China to the Middle East, Africa, Southeast Asia and the Baltics in Europe. Under BRI, announced in 2013, China is planning to invest US \$ 3 trillion plus, over the next 30 years or so, in nearly 60 + countries all over the world to establish possibly six different economic corridors. CPEC is a key component, labelled as “the front runner” of this grand scheme. Pakistan and China formalized plans¹ for the CPEC in April 2015, when they signed 51 agreements and memoranda of understanding on Chinese investments totaling US\$ 46 billion to be made in three phases over the next 10–15 years. This amount is enlarging with addition of new projects. Currently, CPEC program is reported to include 100+ projects for nearly US\$ 80 billion. Annex 1 provides an updated listing of CPEC projects along with reported implementation status.

The Long-Term Plan for CPEC defined seven major areas of cooperation between China and Pakistan: Connectivity through an integrated transport system

and Information Network Infrastructure; Energy (oil, gas, power); Trade and Industrial Parks through SEZs Special Economic Zones (SEZs); Agriculture development and poverty alleviation; tourism; people's livelihood and financial cooperation in financial markets/institutions.

The CPEC is intended to promote connectivity across Pakistan with a network of highways, railways and pipelines accompanied by energy, industrial and other infrastructure development projects to address critical energy shortages needed to boost Pakistan's economic growth. Eventually, the CPEC will also facilitate trade along an overland route that connects China to the Indian Ocean, linking the ancient Chinese city of Kashgar in Xinjiang province to the new Pakistani Port of Gwadar, in Baluchistan province.

CPEC Phase I

The CPEC program started almost a big bang under the PML-N Government. Nearly, US\$ 24 billion worth of investments were committed for 20 large projects. The initial focus of the program was on energy and infrastructure projects. As expected, the composition of CPEC projects in the beginning were

TABLE 8.1

Distribution of CPEC Phase I Projects by Sectors & Provinces

| Province/ Region | Total | | | Energy Projects | | Infrastructure Projects | | Gwadar Port Projects | | Industry/ SEZs | |
|---------------------|-------|--------|------|-----------------|--------|-------------------------|--------|----------------------|-------|----------------|-------|
| | No. | \$ m. | % \$ | No. | \$ m. | No. | \$ m. | No. | \$ m. | No. | \$ m. |
| KPK | 7 | 6,127 | 14.4 | 1 | 1,956 | 5 | 4,171 | - | - | 1 | n.a |
| Punjab | 8 | 13,452 | 35.4 | 4 | 4,872 | 2 ² | 8,580 | - | - | 2 | n.a |
| Baluchistan | 15 | 3,023 | 7.1 | 1 | 1,912 | 4 | 319 | 9 | 792 | 1 | n.a |
| Sindh | 16 | 14,304 | 33.6 | 12 | 12,132 | 2 | 2,172 | - | - | 2 | n.a |
| AJK/ GB | 7 | 4,053 | 9.5 | 4 | 4,053 | - | - | - | - | 3 | n.a |
| Total | 55 | 40,459 | | 24 | 29,925 | 13 | 15,242 | 9 | 792 | 9 | n.a |
| % of Total | | | | | 60.9 | | 37.2 | | 1.9 | | |

Source: www.cpec.gov

not well defined and as such kept evolving over time. For projects under consideration, the available information is scanty; in some cases, only the name of the project is listed. Table 8.1 (a carry-over from the last reports) provides an overview of Phase I CPEC projects by sectors and provinces, as per the available information. It should be noted that the cost breakdown is rough in the sense that information on a number of projects is still unavailable and some projects are multi-province, with no inter-provincial cost allocation available.

The PML-N Government promoted CPEC vigorously; it was their prime agenda during 2016-18. CPEC implementation started with 22 “early harvest” projects worth US \$ 18.9 billion, consisting of 4 infrastructure projects which were financed through Chinese Government concessional loans (2% interest rate); 12 energy projects for US\$ 12.8 billion of private investments (\$9.8 billion commercial loans and \$ 3 billion equity contributions); US\$ 143 million interest free loan for the Gwadar expressway; US\$ 29 million Chinese grants for four Gwadar area projects. Following is a summary of CPEC activities and accomplishments under Phase I.

Energy Projects: The original CPEC program, conceived in a hurry addressed the key economic constraint of energy and transport links facing the country. The new power generation projects were to be implemented by the private sector with easy financing access from the Chinese sources. The private sector quickly availed this opportunity by perusing nearly 20 new projects costing about US\$ 30 billion. The thrust of these investments was on construction of mostly new thermal power plants. A notable feature of the program was construction of one 300 Mega Watt (MW) solar power-park and 4 wind-farms producing 300 MW. The program also included 2 new hydel projects, which are currently under construction. Nearly 5,500 MW of additional electricity production capacity (nearly 30 percent of

current demand) was added to the national grid under CPEC. This additional production eased the load shedding situation, but lagging complacency investments in transmission and distribution continued to be a constraint. The net benefit of the large energy investments were thus compromised. The modality of these investments, through Independent Power Producers (IPPs) has now become a major controversy. The lucrative IPP contracts have resulted in high production cost and a severe debt burden. Overall the energy sector continues to face major challenges due to: high power production costs (energy mix distortions); low productivity of the thermal power plants (outdated technology and weak management); heavy debt burden (persistent circular debt); lagging improvements in transmission and distribution system and half-baked energy sector management structure (a hang-over of 1990s sector reorganization).

Infrastructure Projects: The infrastructure projects composing highways and Gwadar Port were financed with concessional loans and grants from the Chinese Government. Initially, work started on three priority highway segments – one each in the northern, eastern and western parts of the corridor all of which are now essentially completed. The ongoing Lahore Orange Metro line project (Chinese funded) was later added to the CPEC program to meet the project funding gap. This project is now near completion and partially operational. The Cross-border Fiber Optic Project has also been completed. Other nine or so infrastructure projects are all mostly at feasibility/preparation stage. The up-grade of the 1,872 km Peshawar-Karachi Railway line (ML1) proposed under CPEC has been fairly controversial. The \$8 billion + proposal is to double track the railway line with significantly enhanced passenger and freight speed capacity. Financial viability and potential debt burden were the main concerns. After a lot of debate, the project has recently been approved by the Government of Pakistan with a reduced cost

estimate (\$7.2 billion) and a proposed implementation in three phases. The project is now in the commercial contract and financing formulation stages.

Gwadar Port: Gwadar Port is a critical element of the CPEC program. It could well become a “weak link” of the scheme, if neglected. The Phase I projects included: dredging of the approach channel, an expressway linking Gwadar to Makran Coastal Highway, a new international airport and a desalination plant. These are to be supplemented with major investments in the next phase, in container berths, number of specialized terminals (cargo, grain, oil etc.), a 2300-acre SEZ and a 360 MW coal fired power plant. The completed Gwadar projects include: Phase I of the Free Zone Economic Zone and desalination water supply project. Implementation progress on most of the remaining projects in Gwadar area was deemed slow under Phase I.

Special Economic Zones (SEZs): The CPEC program includes development of nine SEZs scattered over the country. Joint Pakistani/ Chinese teams have been working since 2016 to formulate this part of CPEC program. The location and potential focus of these SEZs is listed in Annex 1. Three SEZs (Rashakai, Dhbeji and Faisalabad) were designated as high priority. For most part, SEZ proposals remained at feasibility stage during Phase I. In some cases, the land was identified and acquired. No physical work was started yet. The purpose of a SEZ is to establish a specific area of land to promote industrial growth by providing special concessions in tax and economic policies. The success of SEZs relies on many factors, mainly a combination of tax and tariff incentives, fast and hassle-free custom procedures, links with local suppliers, growers and the global market and most importantly, infrastructure in terms of quality roads, railway and ports. Current SEZ laws in Pakistan, with impediments to expedited approvals, are not

conducive to fast-track investments. A fair amount of strategic planning and analysis will be required for successful development of this component.

Agriculture Projects: A key objective of the CPEC plan is to create employment and stimulate export-led growth along the corridor. The long-Term Plan recognizes the need to focus on the agriculture sector, which would include livestock, fisheries horticulture, etc. Pakistan's rich agriculture potential can be turned into a regional comparative advantage. The connectivity of CPEC and growing market of western China provides a unique opportunity to invest in agriculture. Pakistan could also learn from the tremendous Chinese reform program, which started with agricultural reforms. No free-standing agriculture activities were included in the CPEC Phase I proposals. Discussions were underway with the Chinese to define scope of work, mainly investment opportunities in this area. Various SEZs under planning stages are likely to include agro-processing facilities. It is generally recognized that agriculture related activities like horticulture, livestock and fisheries (near Gwadar are) could have significant potential for the broader CPEC objectives. A key requirement to avail this opportunity is the need to have a better understanding of the development plans and import needs of the Chinese western provinces.

CPEC Phase-I Implementation Summary

According to a recent Chinese Consulate briefing³, CPEC construction over the last 5 years has completed 16 projects another 16 are under construction with total investment amounting to \$ 25.3 billion. Nine energy projects have been put into commercial operation with a total installed capacity of 5,320MW and with investment amounting to \$8.175 billion. CPEC has also created 75,000 jobs directly and 200,000 jobs indirectly for Pakistani workforce. More than 100 small and medium-sized enterprises

have been involved in CPEC construction offering over 100,000 jobs. According to the analysis, CPEC is expected to create 2,300,000 jobs for Pakistan from 2015 to 2030, and fuel the average annual economic growth rate up by 2-2.5 percent.’

CPEC Phase-II: Under the PTI Government

The PTI Government came to power in July 2018. It soon got engulfed in major economic challenges of trade and fiscal deficits (\$20 billion negative balance of payment in FY 2018-19). It inherited a difficult economic situation which warranted imposition of some tough fiscal measures. Beside short-term funding from few friendly countries, it had to seek an IMF relief program, which stipulated stringent fiscal and financial conditions. The debt obligations incurred by the previous government under CPEC was a key topic in the discussions with IMF. As a result of the difficult economic situation, development programs slowed down including CPEC. The PTI Government naturally wanted to have a new look at the CPEC program. It announced early on that its focus under CPEC would be on areas such as industry, socio-economic, agriculture and Gwadar Port development, instead of energy and infrastructure only. They also wanted to put in place implementation arrangements compatible with the needs of this large complicated undertaking.

The CPEC projects already under construction were largely not affected by the change in government. However, as expected, new commitments under CPEC slowed down in the first year of the PTI Government. Even the monthly review of CPEC meetings between Chinese and Pakistani official did not take place for nearly 10 months; these started again in September 2019. The CPEC activities started to pick up in late 2019. The key developments, to date, under Phase II can be summarized as follows.

Projects Completed: A substantial number of ongoing Phase I CPEC projects were completed/ inaugurated, which included:

- Engro Thermal Thar Block Coal: 3.8 m.t/year Thar coal mining.
- Hub Coal Power: 660 MW plant using Thar coal. Commercial operations started in June’ 2019.
- Mitari–Lahore Transmission line: 878 km line, near completion.
- Multan–Sukhar Highway: 393 km 6 lanes section completed in November’ 2019.
- Thakot–Raikot Motorway: 136 km of the Karakoram Highway (KK), northern section.
- Thakot–Hevellian Motorway: 118 km of the KK Highway, southern section.
- Lahore Metro-Orange line: 2.6 km Metro line with 250,000 passenger capacity. Ongoing Chinese funded project later included in CPEC to meet the funding gap.
- Three road sections of the western route: Burhan D.I G Khan, Surab- Hoshab (N-85) and Gwadar – Turbat (M-8), all financed from PSPD and other sources.

Ongoing Phase I Projects: Active projects started under the previous government reported continuing progress. No major implementation delays or funding constraints were reported. These include: Karot Hydro Power, Sukhi Kinari Hydro, Gwadar East Bay Expressway, Gwadar Free Zone Development and the Lahore Orange Line Metro (details available in Annex 1).

Phase II Projects New Starts: After a nearly one-year hiatus in start of new initiatives, CPEC activities started to pick up in late 2020. The new developments are listed below:

- Ground breaking of two new hydel projects: These are Azad Pattan Hydro Power (700 MW) and the mega Diamer Bhasha Dam projects. Diamer Bhasha was at one time proposed under CPEC but its current status is not clear. The PTI Government is showing a strong interest in new hydel power projects to improve the energy mix of the country.
- Construction work has started on two thermal plants; Gwadar Coal-powered Power Project and SSRL Thar Coal Mine-mouth Power.
- Upgrading of the ML1 railway line from Peshawar to Karachi, a much talked about project for a long time has finally cleared the hurdle of Pakistan Government approval. It is now at a stage of commercial and financial packages formulation. This mega \$7.2 billion (current reduced estimate) will be implemented in three phases. The first one will be the double tracking and upgrading of 523 km Peshawar - Lahore line and the Hevellian Dry Port Project. The project, if completed with diligence, could bear good results. The risk of huge financial burden in the future is also there.
- PTI Government has shown a strong interest in Gwadar Port area projects and is putting these projects on a fast track. These include the Gwadar East Bay Expressway, International Airport and Water Treatment Plants.
- There are nine SEZs proposed under CPEC (Annex 1), but most of these remained in feasibility stage during Phase I. The PTI Government is trying to expedite progress in this component. Three SEZs have been designated as “Priority Projects”. Land acquisition and ground breaking of these are now underway. These are difficult investments to design and implement. The government has to undertake the necessary preparatory research to develop effective and

successful strategy and design for this program. Proper legal and incentive frameworks will also be required. Any compromise in the upfront analysis could turn expensive.

New Implementation Paradigm-The CPEC

Authority: The PTI government decided in 2019 to set up a new CPEC Authority to improve coordination and implementation of CPEC program. A Presidential Ordinance to set up this authority has been issued. The next step is the enactment of a CPEC Bill. Little information is available on structure and terms of reference for the new authority. Checkered history of performance in public sector institutions, there is a plenty of skepticism about output of this authority. Its success will largely depend on its mandate and resources, particularly professional competence. The proposed Authority could be beneficial, if it is set up with a clear mandate, adequate professional resources and protection from political interventions. It would need to manage the internal challenges of planning, financing and coordinating between institutions, provinces and agencies to build momentum on speedy outcomes. Transparency in selection of projects and award of contracts will need to be established. A properly designed “enabling environment” framework consisting of laws, incentives and supporting facilities will be critical for the socio-economic projects.

While the structure and mandate of CPEC Authority is being worked out, implementation under Phase II seems to be gaining momentum. As mentioned above the achievements of the Authority to date can be listed as: continuing progress on ongoing projects, including some major completions; start of two new hydel and two thermal power projects; internal approval of ML1 railway project; progress on the three priority SEZs and a youth internship program.

COVID-19 Impact on CPEC: Corona virus hit the

global scene in early 2020. CPEC at that time was proceeding with construction works on the ongoing projects, but new initiatives were in a slow mode as the PTI Government was working on a “re-set” of the CPEC composition. As such it is difficult to assess the impact of COVID 19 on CPEC. The pandemic will, no doubt, disrupt the government's development plans and programs due to economic difficulties. The Chinese Government is keen to see continued progress on CPEC, being a flagship program of BRI. There is little evidence that implementation of ongoing projects has been affected by the pandemic. The new starts were basically on hold in the first year of the PTI Government. This started to change in late 2019 with a high level exchange of officials and particularly the March, 2020 visit of the President of Pakistan to China when two MoUs were signed to expand cooperation in agriculture and science/technology sectors.

The Chinese Consulate in Pakistan is monitoring the situation and issuing status update. China is claiming to have essentially controlled the virus. Government of Pakistan is also taking steps to open up the economy. Travel restrictions were imposed from the two countries to some extent, which must have had an impact on CPEC projects. However, CPEC project has been proceeding as scheduled through the concerted efforts by both sides. Since the coronavirus outbreak, Chinese Consulate General has maintained close liaison with the enterprises being involved in CPEC projects. These Chinese enterprises are still in production and manage to run a business while preventing and controlling the epidemic.

Recap of Key Messages in BIPP Reports

The key findings of BIPP report 2017 ~18 relating to CEPC program under PMLN Government (Phase I) were:

- CPEC was launched with vigor and early harvest project were implemented at a fast pace.
- National CPEC objectives and strategy were not well defined.
- Essential due diligence process in selection and design of the projects was not visible. The program needed to be more transparent.
- Implementation arrangements seemed ad-hoc, not compatible with a mega national program. MoPDR needs to have a overall ownership of the program with a focus to articulate objectives and scope, but not a line agency role in implementation. A “CPEC Secretariat” of experienced professionals to manage the program was suggested.
- Regarding composition of CPEC program, the dominant focus on power generation plants (particularly thermal) was highlighted as a concern. The program included significant transport investments, but mostly along the Kashgar–Karachi eastern route. The shorter western route did not include direct CPEC support on the grounds that these are to be supported under Pakistan's own development budget. Gwadar Port and its ancillary facilities featured prominently in the program but project preparation and implementation were generally slow. Little progress was made at the beginning of the employment generation, export components (SEZs) and agriculture development.

The 2019 BIPP report focused on the transitional political and economic environment of the country. Relating to CPEC program, the report welcomed the shift in emphasis from energy/ transport to social development through industry and agriculture projects. The report made a case that Pakistan needs to become a part of the regional value chain. This can best be achieved through development of value-

added agriculture. This would include livestock, fisheries and horticulture areas in which corridor region has a comparative advantage. The report welcomed the establishment of the new CPEC Authority which needs to have a strong professional staff and a structure and operational procedures that are compatible with the demands of the large CPEC program.

Conclusion and Analysis

There is evidence that Phase I implementation has proceeded satisfactorily. Secondly, welcome changes in the CPEC focus have taken place. There is a shift from thermal to hydel power, fast tracking of Gwadar area projects, commencement of some works in development of SEZs and a clear emphasis

to develop the CPEC Western Route with Public Sector Development Program (PSDP) funding. Furthermore, the government has given the go ahead for the costly ML1 railway projects which will warrant prudent preparation and implementation. Finally, a CPEC Authority has been established, which will need strong professional staffing and suitable operational procedures.

Two areas of weakness in the current CPEC program are reduced emphasis on alternative energy projects (no new solar or wind projects initiated) and little visible progress on broader agriculture related project which are essential to create employment and exports. A critical requirement for Pakistan to become part of the regional value chain.

Annex 1: Updated Status Overview of CPEC Project

1- Energy Projects

A- Completed Projects

| No. | Project Name/ Description/ Location | Size/ Capacity/ Technology | Cost: \$ m / Financing | Executing Agencies | Status/ Remarks |
|--------------|---|---|---|--|---|
| 1 | Sahiwal Coal-fired Power Plant Sahiwal, Punjab | 2x 660MW Super critical Imported coal from Indonesia/ S. Africa via Port Qasim and Pak railway. | \$ 1,912 m IPP Investors: 20 % ICBC: 80 % | EA: Huangneng Shandong & Shandong Rui S.A: PPIB | Project started May, 2014, pre CPEC agreement. CPEC F.C: December 2015 1,700 acre land given free by Punjab Gov. GoP committed Tariff: 8.361 cents/ KWH Completed/ Operational, October 2017. Plant connected to the National grid. |
| 2 | Port Qasim Coal-fired Power Plant Karachi, Sindh | 2 x 660 MW Imported coal from Indonesia/ S. Africa | \$1912.2 m IPP, EXIMB loan \$ 1.56b Investors: \$ 521m. | EA: PQEPC, Sinohydro Resources Ltd. S.A: PPIB R.A: MoWP | Civil works started in May 2015; First unit (Phase I) operational November 2017. Second Phase became operational in April 2018. GoP committed tariff: 8.12 C/ KWH Projected completed and operational. |
| 3 | Quid-e-Azam Solar Park Bahawalpur, Punjab | Phase 1: 300MW | Phase I: \$ 215 Cost shared by Punjab Gov. and Bank of Punjab. | EA: TBEA Xinjiang Oasis Ltd. S.A: PPIB/ AEDB R.A: MoWP | Project Approved by GoP in August 2013. Phase I (100MW) completed in August 2016. Power production well below (only 18 %) design capacity. Project being investigated. Being privatized as well. Cost Plus Tariff; initial tariff: Rps. 14 /KWH |
| 4 | Hydro-China Dawood Wind Farm Gharu, Thatta Sindh | 50 MW | \$ 112.6m IPP ICBC loan: \$ 78.8 m | EA: Hydro China/ Dawood S.A: AEDB | F.C: March 2105 Completed: April, 2107; Operational. Up-front Tariff |
| 5 | UEP Jhimpir Wind Farm Thatta, Sindh | 100 MW | \$ 250 m IPP, loan from China Dev. Bank Corp. | EA: UEP Wind Power Co. S.A: AEDB R.A: MoWP | Phase I , 6 MW completed in 2009. F.C: March 2015 Project completed: June, 2017 Operational Up-Front Tariff: 12.1 c/ KWH |
| 6 | Sachal Wind Farm, Jhimpir, Sindh. | 50 MW | \$ 134 m | EA: SEDLP S.A: | F.C: December 2015 Project completed: April 2017, Operational |
| 8 | Engro Thermal Coal Thar Block, Sindh | 660 MW Local coal Super critical | 995 IPP | EA: Engro Power Gen./ China Machinery Eng., Co. | FC: April 2016 Thar coal pumping began in March 2109. Commercial operations began in June 2019. |
| 9 | Coal Fired Power Plant HUB Baluchistan | 2x660 MW Imported coal Super critical | 1912,2 IPP | EA: China Power Hub Co. S.A: PPIB | Ground breaking: March 2017 Project completed/ operational in August 2019 |
| Total | | 5,120 MW | \$ 7,442.6m | | |

B: Ongoing Energy Project

| No. | Project Name/ Description/ Location | Size/ Capacity/ Technology | Cost: US\$ Million / Financing | Executing Agencies | Status/ Remarks |
|--------------|---|--|---|---|--|
| 1 | Thar Coal Field, Block II, Surface Mine Sindh | 3.8 mmt/y | 630 | EA: China Machinery Eng. Co./ Sindh Engro Coal Mine (a J.V co.) holds lease of Thar coal fields. Ra: MoPNR | F.C: April 2016 Thar coal unearthed June 2018 Mining works in progress. Project partially completed |
| 2 | Korat Hydro Power Jehlum River, AJK | 4x190 MW Rockfill dam, 95 m high | 1,698 BOT (30 year lease) IFC and EXIMB loan to investors. First Project under SRF | EA: Korat Power Cons. Co., subsidiary of Three Gorges Corp. S.A: PPIB R.A: MoWP | F.C: February 2017; agreement signed with Chinese co in December 21016. C.D: December 2021 Construction ongoing; 70% progress reported.Ancillary facilities construction ongoing. Committed Tariff: 7.57 C/ KWH |
| 3 | SukhiKinari Hydro Power Kunhar River KPK | 870 MW Concrete-face Rockfill Dam. 54 m high. | 1,707 BOT 75 percent cost by Developer with EXIMB loab | EA: S.K Hydro China Gezhouba Grp. S.A: PPIB R.A: MoWP | F.C: December, 2016 Land acquisition underway Construction ongoing; 65 percent progress reported. CD: December 2022 Committed Tariff: 8.81 C/ KWH |
| 4 | Mitari- Lahore Transmission | 878 km 660 K transmission line | 1,658 ITC | EA: China State Grid S.A: NTDC R.A: | FC February 2019 NEPRA tariff determined 85 % progress reported C.D: March, 2021 |
| 5 | Mitari- Faisalabad Transmission | 878 km 660 K transmission line | 1,500 ITC | EA: CET / SGCC S.A: NDTC R.A: | F.S completed, land acquisition ongoing. NEPRA tariff determined C.D: March, 2021 In mid term |
| 6 | Gwadar Coal- fired Power | 300 MW Imported coal | 542 m | EA: China Comm. Constr. Co. SA: GPA /GSA RA: MoWP | LOI issued May 2017 Ground breaking in November 2019. Construction ongoing. |
| 7 | SSRL Thar Coal Mine Block 6.8 Power Phase II, Thar Sindh | 660 MW | 1300 m IPP | EA: Shanghai Elect. Power SA; PPIB | FC: 2017 Phase I completed August 2020. Phase II ongoing; CD February 2023. |
| Total | | | 8,493 | | |

C: Under Consideration Energy Projects

| No. | Project Name/ Description/ Location | Size/ Capacity/ Technology | Cost: US\$ Million / Financing | Executing Agencies | Status/ Remarks |
|--------------|---|--|--------------------------------------|--|--|
| 1 | Rahim Yar Khan Imported coal | 2x660 MW | 1,600 IPP | EA: Huangnegg Shandong Power S.A: PPIB | Feasibility stage LOI issued |
| 2 | SSRL Thar Block I | 6.5 MT/Y | 1,300 | EA: Shanghai Elect. Power S.A: PPIB | F.C: 2017 CD: 2019 |
| 3 | Thar Mine Mouth Oracle Power Plant and Surface Mine Project | 1,320 MW | N.A | EA: Oracle Coal field &Yanzhou Coal | FC in progress LOI under issuance |
| 4 | Kohala Hydel Project AJK | 1,110 MW | 2,355 | EA: China Three Gorges Group S.A: AEDB | Stage I F.S completed; F.C: October 2018. NEPRA Tariff determined, Land acquisition ongoing Tripartite Agreement signed June 2020. CD: 2025 |
| 5 | PhanderHydrto Power Gilgit- Balistan | 80 MW | | | Under study |
| 6 | GilgitKIU Hydro Power | 100 MW | | | Under study |
| 7 | Cacho Wind Power | 50 MW | | EA: Cacho Wind Energy Pvt. Ltd. S.A: AEDB | LoI Stage |
| 8 | Western Energy Wind Power Project | 50 MW | | EA: Western Energy S.A: AEDB | LoI stage |
| 9 | Quid- e-Azam Solar Power Plant | 600 MW Phase II: 600 MW (being tendered) | 1,100 | | Punjab Government has leased 4,500 acres to Chinese investors for 900 MW second Phase. Contract being negotiated with Zoenergy, a subsidiary of ZTE. Much controversy on this contract award. |
| 10 | Hub Coal Baluchistan | 660 MW | | EA: China Power Holding | Feasibility stage. |
| 11 | Gaddani Power Plant Las Bela, Baluchistan | 2x660 MW | | TBD | Feasibility Starge |
| 12 | Azad Pakpattan Hydro | 701 MW | 1,655 IPP | EA: China Geghouba SA: PPIB | New project added to the list |
| 13 | HUBCO Thar Coal Thar Block II, Sindh | 330 MW | 497 IPP | EA: Thal Nova / HUBCO SA: PPIOB | FC achieved in June 2020 Target CD: March 2021 |
| Total | | | 8,059 | | |

Infrastructure Projects:

| Project No. | Project Name/ Description/ Location | Size/ Capacity | Cost: US\$ Million Financing | Executing Agencies | Status/ Remarks |
|--------------|---|---------------------------|------------------------------------|---|---|
| 1 | KKH Phase II (Thakot-Havelian section, KPK) | 118 km | 1,315 m GoCL | EA: China Comm. Const.Co. SA: NHA | Construction start: September 2016 Substantial completion in March 2020 |
| 2 | Peshawar Karachi Motorway (Multan –Sukhar section) Punjab/ Sindh | 392 km, 6 lanes. | 2,980 m | RA: MoC SA: MoC EA: NHA | Construction started in August 2016 Multan - Sukhar 37 km section opened March 18 Remaining sections completed in Nov 2019 |
| 3 | Khuzdar – Basima Road N-30 Baluchistan | 110 km | 80 m | RA: MoC EA: NHA | PC-1 approved December 2017 Project to be financed under PSDP. Physical works on-going. |
| 4 | DI Khan (Yarik) –Zhub N-50 Upgradation. KPK/ Baluchistan | 210 km | 195 m | RA: MoC SA: MoC EA: NHA | PC-1 approved; land acquisition underway Being taken to JCC. |
| 5 | KKH Thakot- Raikot N 35 136 km KPK | 136 km | 720 m | RA: MoC SA: MoC EA: NHA | F.S / PC-1 completed Mansehra- Burhan section completed in August 2020. |
| 6 | KHI-LHE- Peshawar Rail line, Rehabilitation/ upgrade of existing ML1 line / KPK,Punjab,Sind | 1872 km Double tacking | 6,808 m GoCL | RA: MoR SA: MoC EA: MoR | Feasibility completed, Framework Agreement signed, May 2019. Project scope reduced by \$ 2 billion. PC! Approved by CDWP in June 2020. Project to be implemented in 3 phases. |
| 7 | Hevellian Dry Port, KPK | 450 m | 65 | | Feasibility completed, Framework Agreement signed, Project included in Phase I of ML1. |
| 8 | Capacity Development of MoR | | | | Planning stages |
| 9 | Orange Line, Lahore | 27.6 km | 1,600 | | Ongoing Project, substantially completed and operational. |
| 10 | Karachi Circular Rail | | | | Very old project, F.S completed May 2107 |
| 11 | Peshawar mass Transit | | | | F.S under process |
| 12 | Quetta Mass Transit | | | | F.S under process |
| 13 | Cross Border Optical Fibre Cable | 835 km | 44 GoCL | Special communication organization, (SCO) | Works started: 2015 Project completed: July 2018 |
| Total | | | 13,807 | | |

Gwadar Port Projects:

| No. | Project Name/ Description Location | Capacity | Cost: US\$ Million Financing | Executing Agencies | Status/ Remarks |
|--------------|--|-----------------------------|--|--|--|
| 1 | Gwadar East Bay Expressway Linking port with main artery of Gwadar, Baluchistan National Highway – N20 | --km, 6 lanes + 30 m wide | 168m Financing: Mix of GoCL and grants. | RA: Gwadar Port Authority SA: MoPS EA: | Agreement signed. Construction underway. 60 percent completion reported. CD: October 2020. |
| 2 | New 26 km east of Gwadar City Gwadar International Airport | | 230 m GoC grants | RA: SA: EA: CAA | Grant Agreement signed in May 2019. Ground breaking March 2019. Construction ongoing. |
| 3 | Construction of Breakwaters Gwadar | | 123 m GOCL / grants. | RA: GPA SA: MoPS | Planning stages; feasibility study being completed. |
| 4 | Dredging of berthing areas & channels Gwadar' Baluchistan | | 27 m GoCL | RA: GPA SA: MoPS EA: | F.S completed |
| 5 | Free Zone Development - Gwadar Port Free zone - GIEDA Industrial zone - EPZA export Processing Gwadar | 6,280 acres for 3 zones | 32 m GoCL. | RA: China Overseas Port Holding SA: P&D, GoB EA: | Tax exemption for Port and Freezone notified in June 2016.. Project ongoing, Phase I completed in January 2018. Start of industries construction expected soon |
| 6 | Facilities for water Supply/ sewage treatment. Gwadar | | 130 m Grants | RA: GPA SA: EA: | Phase I Pipeline from Swar dam to Gwadar completed. BOT tender for Desalination Plant floated. |
| 7 | Pak China Friendship Hospital Gwadar | 50 beds + 50 beds Ph. II | 100 m Grant | RA: SA: P&D, GoB | LOI signed. Ground breaking in December 2019. |
| 8 | Gwadar Technical and Vocational Institute Gwadar | | 10 m Grant | RA: SA: MoPS | Ground breaking in December 2019. |
| 9 | Gwadar Smart Port City Master Plan | | | | Project approved in JCC in November 2019 |
| Total | | | 820 | | |

CPEC Industry Projects:

| No. | Project Name/ Description/ Location | Size/ Potential Industries | Cost: US\$ Million Financing | Executing Agencies | Status/ Remarks |
|-----|---|--|------------------------------------|-----------------------|--|
| 1 | Rashakai Economic Zone on M1 Nowshera, KPK | 1,000 acres Fruits/ food packaging, Textile stitching/ knitting | | | 1000 acres land acquired MOU & Engagement Agreement signed in November 2018. Concession Agreement underway. |
| 2 | Special Economic Zone Dhbeji, Sindh | 1,000 acres Usages: TBD | | | F.S initiated |
| 3 | BostanIndustrail Zone, Baluchistan | 1,000 acres Fruit Processing, Ag. Machinery, Electric, Pharmaceutical, Ceramics, Cooking oil, etc. | | | F.S shared with Chinese. 200 acres have been devloped |
| 4 | ICT ModelIndustrial Zone Islamabad | 200- 500 acres Food processing, Pharmaceutical, Chemicals, Printing & Packaging. | | | F.S shared with Chinese Land being identified |
| 5 | Mohmand Marble City FATA | | | | F.S shared |
| 6 | Industrial Park at Port Qasim Karachi, Sindh | 1,500 acres Steel, auto, Chemical, Pharmaceuticals. | | | F.S shared with Chinese Land earmarked; being transferred. |
| 7 | Moqpondass SEZ Gilgit- Balistan | 250 acres Marble, Granite, Iron ore, Fruit Processing, Leather etc. | | | F.S shared with Chinese |
| 8 | Allama Iqbal Industrial City Faisalabad, Punjab | ~ 3,000 acres Textile, Steel, Pharmaceutical, Chemicals, Plastics, Agriculture Implants etc. | | | F.S shared with Chinese Ground breaking done. |
| 9 | Special Economic Zone Mirpur, AJK | 1078 acres Mix Industries | | | F.S shared with Chinese |

CPEC Agriculture Projects:

| No. | Project Name/ Description/ Location | Size/ Potential Industries | Cost: US\$ Million Financing | Executing Agencies | Status/ Remarks |
|---------------------|---|-------------------------------|------------------------------------|-----------------------|-----------------|
| (NO DATA AVAILABLE) | | | | | |

Other Sectors CPEC Projects:

| No. | Project Name/ Description/ Location | Size/ Potential Industries | Cost: US\$ Million Financing | Executing Agencies | Status/ Remarks |
|-----|---|-------------------------------|------------------------------------|-----------------------|--|
| 1. | Quetta Water Supply Scheme From Pat Feeder canal, Baluchistan | | | | Feasibility Stage |
| 2. | People to People Exchange | | | | Framework under consideration |
| 3. | Transfer of Knowledge in Different Sectors | | | | Partial implementation ongoing |
| 4. | Pilot Project of Digital Terrestrial Multimedia Broadcast (DTMB) | | 2 | | Completed. Demonstrative Project with Chinese is being processed. |

Chapter

9

**COVID-19: Agriculture and Food
Security Analysis and Policy Options**

COVID-19: Agriculture and Food Security Analysis and Policy Options

Dr. Mahmood Ahmad

Introduction:

Today, we find ourselves at a moment of reckoning, in which we must address the gaps in our health, food and economic systems that crumpled in the face of COVID-19. For example, to assessing how the virus made the jump from animals to humans, one needs to view the issue from a historical perspective. According to the Agroecology Fund, evidence from evolutionary biologists and epidemiologists suggests that the industrial food system has, in fact, helped create the structural conditions for this outbreak and set up other future outbreaks to follow in its wake. The crisis is a powerful wakeup call for our industrial food system.

As the crisis builds, the roles of a few sectors have assumed a new found importance, including the food production sector. Meeting basic food security needs depends on continuing food production which, in turn, relies on a well-functioning supply chain. Yet, as COVID-19 turns into a protracted crisis, meeting food security needs will be challenging not only for developed but also for developing countries. Pakistan had its share of down turn in the economy which was showing sign of recovery after relatively successful actions that have worked better than many countries around the world. The precarious food security situation we have found ourselves

in is just as unprecedented as the virus itself, giving new dimensions to how we define food security and vulnerable populations.

Impact of Developed Countries

Evidence suggests that COVID-19 has caused setbacks to food security amongst even the most developed countries and has exacerbated pre-existing food security concerns in the West. With operations reduced or shut down in meat processing plants like Tyson Foods, we are witnessing levels of food wastage never seen before. In Maryland and Delaware, nearly 2 million chickens at farms in the two states were destroyed instead of getting processed for meat. So, what does this mean for meat consumers across the nation? With a temporary reduction in supply, consumers will likely see higher prices for meat in their grocery stores. What is more, with rising unemployment rates, these high prices at local grocery stores are a scary prospect.

In addition to witnessing a food waste, COVID-19 is a grueling test for the labour market. Farmers in Europe are cut off from their seasonal migrant workforce as a result of border lockdowns caused by COVID-19. Britain, Germany, Italy, France and other countries are struggling to find people to pick

their raspberries, potatoes, strawberries and other produce that is ready to be harvested or will be ripening in the near future. Numerous European countries are forced to rely on local residents to help pick, garner and store their produce.

Meanwhile, as farmers across the globe are struggling to find avenues to supply their product to consumers, 60% of Feeding America food banks, the largest hunger-relief and food rescue organizations in America, are facing reduced inventory levels amidst a rising demand. Individuals are waiting for hours at food banks for a meal, with many claiming this is their first experience receiving food from a food bank.

Contrary to popular belief, there is no shortage of food. Farmers have it and people need it. However, with alarming unemployment rates, border shutdowns, fundamental supply chain gaps and reduced demand from school cafeterias and restaurants, we are faced with a food security challenge rocking the entire world.

However, despite a somewhat clear path to recovery, it is necessary to acknowledge COVID-19 is still spreading and putting workers, including food workers, at great risk. There is one key factor that we must consider as we move forward in this conversation surrounding food security amid COVID-19: a healthy and able workforce is critical for a well-functioning food system. It does not matter if that is in the fields of Wisconsin or in the pastures of England. A fundamental issue of our current lack of food security does not lie within a lack of food production or even capability to produce enough food. What we overlook is that people move this proverbial “train” forward. When workers are either sick or cannot access their place of work, that is when we begin to witness a critical gap that begins to question when or how we will get food on the table.

The Developing Countries

While food security is a burgeoning concern for the masses in the developed world, emerging markets are facing problems that have been further exacerbated by COVID-19. Food shortages are appearing in Afghanistan, Burma, Lebanon and parts of Africa, creating worries greater than COVID-19. Some populations are worried that they might die of hunger before they die of the disease.

Lebanon, for example, has had ongoing riots and protests since October 2019 as a result of the country's economic collapse, and the recent explosion contributed further to collapse of societal fabric and economy alike. However, these riots have now become hunger protests, with more than half the Lebanese population in need of some form of aid.

In developing countries, the most vulnerable are those that are already struggling with hunger, health, and poverty. These people include small and marginalized farmers; rural laborers who are struggling to choose between health and livelihood; people in poor health (especially malnutrition, chronic disease, and compromised immune systems); those living with stigma (people living with HIV, prisoners and their families, the mentally ill, and the disabled); and the isolated (living in a remote location or having no social network). Emerging markets are witnessing a crisis within a crisis, defined by the interconnection between suffering food and health systems.

The truth is that these countries are finding a difficulty in carrying out livelihoods, let alone have concerns about pandemics. Recent locust attacks in parts of Africa and now in Asia, such as Afghanistan, Pakistan and India, are having a devastating effect on rural economies and is considered just one of the crises within a crisis. The recent cyclone in the Bay of Bengal is another calamity for large sections of

coastal communities in India and Bangladesh. Moreover, most populations in rural areas are counting on informal support systems (private sector donations or from faith-based organizations, etc.) built over the years to see them through these difficult times with less confidence for government support. These populations tend to perceive past government support to come with enormous political motives and instead desire a government that is honest in supporting those in need.

However, there are good lessons on the horizon that we might not be able to capture now, as our current and past characterization of problems and their solution seem outdated and irrelevant under the present crisis. Some needed actions are outlined in the last section.

Classification of the 'Most-Vulnerable'

Who are the most vulnerable groups? These populations comprise of not only low-income wage earners but also the middle class who have gotten laid off in the slow economy. Individuals are finding it difficult to afford grocery, specifically meat, as prices skyrocket and people increasingly depend on food banks. According to a Cable News Network (CNN) report, 10 percent of USA population is food insecure. Vulnerable or unprotected groups are also those with limited or irregular income, people who cannot build emergency reserves of money or food, and those employed in occupations that may be severely impacted by COVID-19, such as tourism and travel-related services “provided by hotels and restaurants.” These include catering, travel agencies, tour operator services and tour guides. According to WTO, it is one of the, “most dynamic economic sector tourism-related services are labour intensive with numerous links to other major segments of the economy.” This has taken a major hit during the COVID-19 pandemic.

What is more, those sitting in advanced economies, who once played the role of major donors in funding food security measures, may no longer be in a position to fund future preparedness, response and mitigation efforts. They are in the process of addressing their own food security and financial needs by keeping rural farm business alive. For example, in the USA, is a second-round bailout package enough for supporting the struggling agriculture and meat sector? Additionally, international cooperation is at a shockingly low level, with the U.S. pulling out of the WHO at this critical time. As most aid targeting disaster-stricken communities is channeled through the FAO, WFP and WHO, this presents a bleak outlook for health and food security assistance flowing from developed to developing countries.

Impact of COVID-19 in Pakistan

Most current assessments from the FAO generally foresee a contraction in both supply of and demand for agricultural products and point to possible disruptions in trade and logistics. On the supply side, widely different opinion are aired on the duration of the shocks, price dynamics, differential impacts between domestic and international markets, differences across countries and commodities, the likely paths of recovery and the policy actions to remedy the various shock waves. ADB's recent work, briefly reported below, provides firsthand information on the impact. On the demand side, there is a general agreement that agricultural demand and trade will slow down as is happening across nearly all countries around the globe, largely due to a reduction in overall economic activity and rising rates of unemployment. While food and agricultural systems are exposed to both demand and supply side shocks, these shocks are not expected to take place in parallel since consumers can draw on savings, food stocks and safety nets.

According GIEWS's (FAO) country brief on

Pakistan, COVID-19 began to pick up in March at a time when wheat crop was on the ground and the country was expecting a bumper crop. The data reveals that the expected bumper crop could not be materialized but production stayed close for a five-year average. During this period, favorable weather conditions, ample irrigation water supplies and adequate availability of agricultural inputs, such as fertilizers, chemicals and labor, allowed farmers to plant on an above-average area and fostered high expectations for bumper yields. In March and April, unseasonal heavy rains and localized hail over areas of the main wheat-producing province of Punjab delayed harvesting operations and caused localized damage to standing crops. These factors contributed to obtaining an average production rates.

The prices of wheat grains showed a negative trend after an initial drop in prices in the first three months of the year, and prices showed an increasing trend in the second part of March, mostly supported by an upsurge of demand and transport disruptions related to the COVID-19 pandemic. Harvest delays due to above-average rains, provided further upward pressure on prices. Overall, prices in March and beyond remained well above their levels a year early and at near-record highs in some markets. An ADB survey¹ indicated that farmers in Punjab were spared the negative effects of the restricted movement of goods imposed by COVID-19 except in the southern districts. The story is also not any different for sugar. There were strong wheat and sugar cartels in the country that held enough power to manage prices in which the cost was borne by producers and consumers. The debate lasted all summer, or during the peak of COVID-19 which is why there was such a rise in prices.

The rise in prices, only if transmitted to the farmer, is good news. As a student of agriculture policy, it is known that, historically, farmers have been implicitly taxed. Thus, it is long overdue that farmer produce is profitable and competitive. The incentive

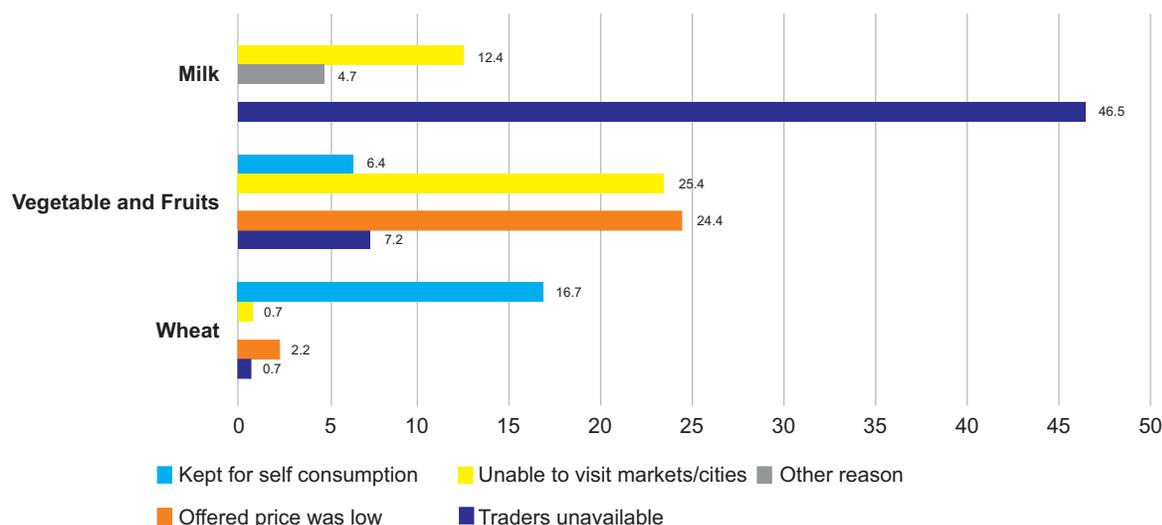
structure for the farm sector can be summarized as rising cost and uncertain income. On the other hand, rising prices for these two key commodities is bad news for the consumer, but not for all as often is described in the media. A sizable part of the country's population still lives in rural areas; thus, a large portion of these crops is saved for home consumption. Furthermore, there is a large part of the population living in urban areas who can afford this price rise. Finally, there is a portion of nation's population in this setting who are indeed poor, indicating the need for a well-designed, targeted subsidy. Past records of this policy discourse have been misguided with costly outcomes. The COVID-19 crisis provides an opportunity to take critical and difficult decisions, especially for these two commodities being often used to destabilize the existing political setup.

During COVID-19, fruits and vegetable prices remained in the news as the nation witnessed unusual market instability on central food items. Restrictions on movement of goods upset the market of highly perishable products such as vegetables, fruits and milk, as they are difficult to store, unlike grains. Disruptions in the food supply chain resulted directly in income losses for producers and increased food prices, and therefore the need to be kept at a minimum under the COVID-19 induced movement restrictions. The present government might have averted crisis, had they done a better job in assessing the crisis and preparing a prudent response. The COVID-19 affected mango exports more than any other commodity, as the mango exports were limited. As a result, mango farmers did not reap profits they are accustomed to for the popular fruit.

The ADB report 2020 further reveals that rising input prices raise grave concerns about the forthcoming rice growing season¹. The results in this brief show that farmers have lost cash earnings during the COVID-19 pandemic. Coupled with the

Figure 9.1

Reason for not Selling or Unable to Sell Rice Wheat Belt of Punjab



Source: ADB Briefs, August 2020, COVID-19 Covid-19 Impact on Farm Households in Punjab, Pakistan: Analysis of Data from Cross -Sectional Survey

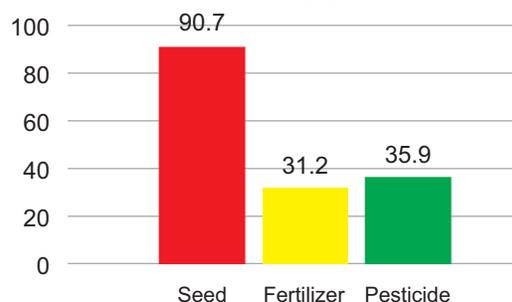
higher input prices, farmers may not be able to buy the inputs they need for rice production. Because rice is a major staple crop for domestic consumers and an important export product, increased input prices may cause significant problems for Pakistan's economy. The impact, as reported by the ADB policy brief, is summarized in Figure 9.1.

The ADB policy brief also reveals that, though farmers were able to harvest the produce but market access to sell produce was affected by number of factors. Taking the example of Rice - Wheat cropping zone, and using ADB data - for milk large percentage (46.5 %) could not be sold due to non-availability of traders. Low price of vegetables and an inability to visit and transport their produce to the market were the dominant factors. For wheat, the problem was less severe because being a nonperishable commodity, with storage options the farmers were able to salvage what could otherwise have been a catastrophe. For many small farmers, it was a “matter of cutting their losses” and using the grain and flour for home consumption (Figure 9.1). The author followed a “wheat- story “ about two

brothers farming in Vehari districts of Multan Division at harvesting during the COVID-19 pandemic. One being hard pressed for cash flow had to sell his wheat at price a bit lower than the Government procurement price, the other who waited, seeing the rising trend of wheat flour prices, stored his share at a local storage facility. He sold his produce in August at a hefty price that was almost double (Rs 1,950 per 40 kg) in value, than that of his brother. The story also tells us how our procurement and marketing system has been exploiting small

Figure 9.2

Farm Input Price Increase (%) Attributed to COVID-19



Source: ADB Briefs, August 2020, COVID-19 Covid-19 Impact on Farm Households in Punjab, Pakistan: Analysis of Data from Cross -Sectional Survey

farmers for so long.

ADB report also reveals that more than 27 percent of respondents are facing disruptions related to COVID-19 for buying inputs for next crops; while 45 percent were not facing any disruption; and the rest (28 percent) are reported as being unsure. Figure 9.2 reveals that seed prices increased and almost doubled during the ADB study period. This is far less than indicated by fertilizer and pesticide.

Success Stories during COVID-19

Developing Innovative Solutions using Technology: The Case of Bangladesh and Lessons for Others.

The COVID-19 pandemic in Bangladesh had an effect on food supply chains, especially in the informal and unorganized sector in rural areas. The lockdown impacted food accessibility, agricultural input supplies, jobs and farmer income. With disrupted local food supply chains and limited storage capacity, farmers became desperate to sell their produce, particularly perishables. This led the FAO to support an Agriculture and Food Security Program named Middle Missing Initiative (MMI) centered around creating Producer Organizations (POs). The focus of MMI Bangladesh A2F+ is centered around improving farmers' access to markets, technical knowledge and finance through strengthening capacity of farmers' organizations, so that they can provide agribusiness services to smallholder members. Through the virtual call centers, farmers have sold products worth more than 34.4 million Taka to buyers including private companies (Figure 9.3).

Sara Bangla Krishak Society, a national federation of farmer organizations in Bangladesh, is using its network and resources to support farmers during the COVID-19 outbreak. With technical backstopping of FAO-MMI, 57 Virtual Call Centers (VCCs) have been established in northern and southern Bangla-

desh. A volunteer VCC operator from each PO collects the daily needs of inputs as well as what produce the farmers have to sell. They then engage a rickshaw van to deliver the inputs in bulk, pick up and sell the produce, also in bulk. The VCC operator also works closely with local administration, extension and law enforcement authorities to ensure the uninterrupted agricultural supply chain both up and downstream.

COVID-19: Pakistan's 'Green Stimulus' Scheme —a Win-Win Outcome for the Environment and the Unemployed

According to the green group World Wide Fund for Nature (WWF), Pakistan is a "forest poor" country where trees cover less than 6 percent of the total area. Every year, thousands of hectares of forest are destroyed, mainly as a result of unsustainable logging and clearing land for small-scale farming. To address the issues, the present government has given priority for a "green" Pakistan, which is reflected in their announcement of a very ambitious target of planting 10 billion trees at a cost of 7.5 billion rupees (US\$46 million). This will help to scale up the success of the earlier Billion Tree Tsunami Project in Pakistan's Khyber Pakhtunkhwa province, where the government has been planting trees since 2014. The country is very proud to announce that it has achieved Sustainable Development Goal 13 (SDG) ten years earlier and is on the road to develop a green economy.

The Pakistan Institute of Development Economics (PIDE) COVID-19 Bulletin, number 13, reported that due to the lockdown, up to 19 million people could be laid off, nearly 70 percent of them located in the Punjab province. The government, at the highest level, granted an exemption to allow the forestry agency to restart the aforementioned green program, also in spite of the lockdown policy which was implemented for all sectors excluding those that

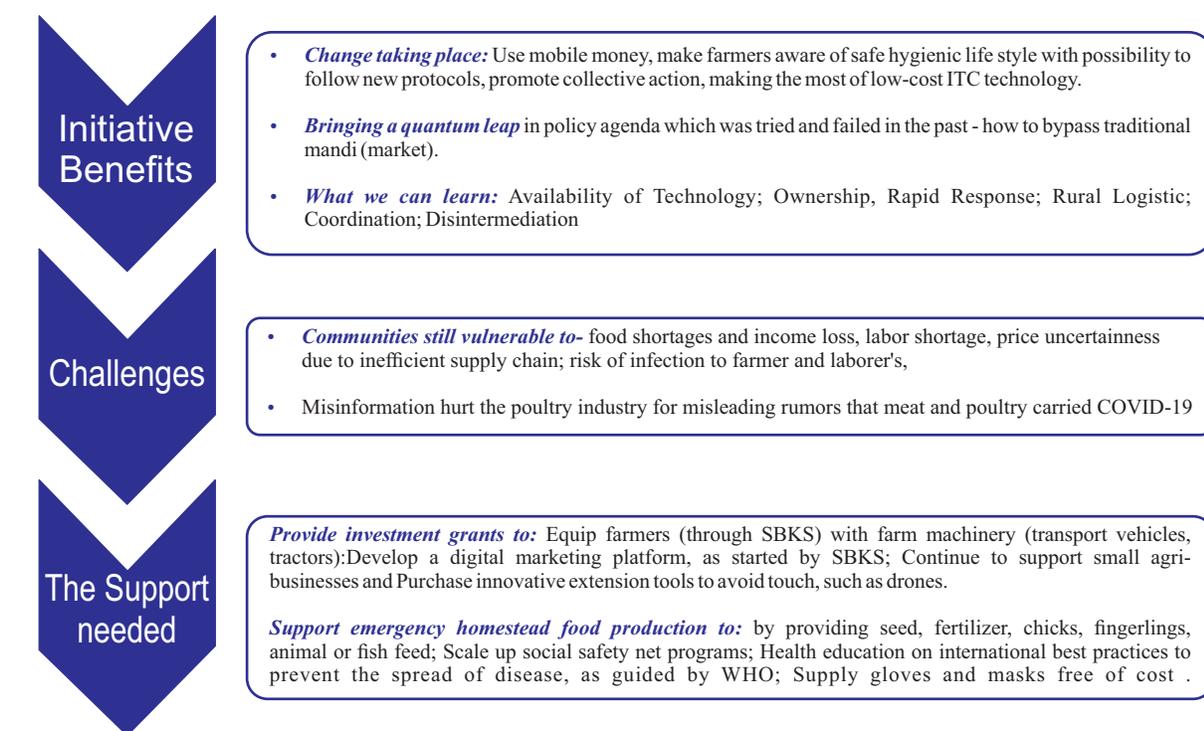
Figure 9.3

Bangladesh Success Story under COVID-19



A Summery Profile

A summery presented below highlighting what makes this initiative unique, the existing challenges and what further support it needs for scaling up².



were essential. According to government officials, the program was expected to create more than 63,600 jobs. The program called “Green Stimulus” focused on two objectives – job creation and restoration of our natural ecosystems with interventions including planting trees, reviving protected areas and sanitation improvement³. The targeted beneficiaries are the unemployed youth and women as well as daily wagers who have suddenly found themselves jobless and migrating to rural areas. The

program is also enforcing necessary precautions including the use of masks and operating with social distancing in open air surroundings.

As the program is fully funded through budgetary provisions, it is now in the process of upscaling the activity and recalibrating priority towards green job creation. The outcome of the program reports its delivery has already led to 65,000 daily wage nighabaan jobs across the country in nursery raising,

plant care, protection of natural forests, honeybee farming and fire-fighting activities. Through the provinces, we have planned to raise this to 200,000 jobs within the next few months.

According to the Ministry of Climate, the second phase is Post-COVID-19 recovery, for which substantial support funds (approximately US\$60-100 million) are being secured through multilateral donors. The scope of this work can be expanded to add climate compatible activities across sectors such as housing with energy efficient retrofitting of buildings, transport with cleaner electric options, and energy with clean renewable energy promotion. With the momentum gained in the first two phases, the third phase will be to structure “Debt for Nature” swaps based on the credible ongoing activity and the renegotiation of Pakistan's burgeoning debt with countries supporting a green revival of the global economy. There are already strong indications of a growing global appetite for supporting this directional shift towards ecosystem restoration and

Figure 9.4

Woman at work under the program called “Green Stimulus for COVID-19”



job creation.

Short Term Actions

In the short term, efforts must be invested in preventing deepening disruptions to crop production and protection systems – much in the same way as the food supply chains of many countries were exempted from the restrictions to the

movements of persons, goods and services.

The FAO is also working with provincial governments and others to help strengthen communities' resilience through awareness campaigns and farmer field schools for rural communities. To support agricultural production, the organization is helping the most vulnerable groups access essential seed, fertilizer, pesticides, agricultural machinery, repair services, spare parts, veterinary services, medicines and animal feed — critical components of the supply chain.

The Government of Pakistan response to existing and post-COVID-19 consequences are centered around policy objectives of increasing the production and agriculture income of small farm holders through better access to technology, credit, and markets.

Without institutional reforms, implementation of the above policies will likely not happen, if the nation's past experience is any guide. According to an ADB Report⁴, the approach should be not be based on a project basis which is limited in time and in most cases, unsustainable and not scalable.

More specific actions in the short term include adopting financial support measures for small farm holders. For example, deferring agriculture credit payments, reducing and/or waiving interest rates on loans and price control of essential inputs. Additionally, another potential action is ensuring that agricultural tasks in the cropping cycle are performed on time, so that crops ready for harvest are not lost and planting is not disrupted.

Additionally, it is critical to safely manage human mobility, as urban labor returns to rural hinterlands, to ensure a strong labor force. Moreover, we must consider possible ways to replace labor with targeted and appropriate mechanization services and technology in production, processing and for transportation of inputs and goods. Other necessary actions include creating mechanisms to make food

supply chains more inclusive for small farm holders (for example, ad hoc distribution centers, selling points, market hubs, etc. that are compatible with restrictions such as physical distancing) as well as utilizing digital technology to provide a real-time reliable information to farmers and traders on prices and market demands, and supporting farmers for matching supply with demand to boost small holders' connection to urban and local markets and processors.

Furthermore, another short-term action might be advocating for and encouraging local food production and simplified food supply chains. The term “think global, act local” seems to be more appropriate than ever. This includes urban and peri-urban horticulture (including through protected cultivation) and more local distribution within a shorter supply chain to increase availability in urban markets and consumers' access to nutritious fruits and vegetables. The Rotterdam Convention's network of Designated National Authorities (DNAs) advises farmers (using cell phone SMS at no costs) about the risks of using hazardous pesticides and the alternative option of using biopesticides and/or other alternative methods in order to protect human and environmental health.

Long Term Actions

At Production Levels: Long Term In the long term, post-pandemic policies should learn from previous mistakes, moving away from emergency support interventions into development-oriented support action that makes the sector profitable, competitive, sustainable and inclusive. To do that, it is important to know where things went wrong. Among other aspects, we need to understand that, after decades of input-intensive farming, it can be observed that soil systems in the flood-irrigated areas of Pakistan, are badly deteriorating caused by high salinity from over application of fertilizer and irrigation water.

This resulted in

- Soil water absorption, retention and provisioning capacity had declined over time. Crops which previously needed irrigation only once every 3 to 4 weeks or so now need water after less than 10 days
- Input-intensive farming that started with the Green Revolution in the 1960s promoted repeated ploughing to make the soil powdery, but it also became more susceptible to wind and water erosion in addition to reduction in water absorption capacity of the soil
- To exploit the full potential of improved seed varieties, high fertilizer dosing, numerous pesticide spraying and excessive irrigations were recommended. By the middle of 1980s, yield increases in the agricultural sector stagnated
- The long-term strategy must be based on the sustainable development of the agriculture sector and should call for drastic change of agricultural production systems. What is required are production systems that are no longer extractive, which protect the field from water run-off and soils from erosion, and which maintain soil fertility by restoring organic matter and plant nutrients exported from the field. The “key” to a sustainable future is to move towards more ecologically friendly farming systems that are more effective in harnessing nature to sustain higher levels of productivity. Critical to this is an increase in the quantities of organic matter on and in the soil, so as to provide the surface-protection, energy and nutrients required by soil-inhabiting flora and fauna that constitute the “life” of a soil, playing a vital role in maintaining its porosity, enhancing its moisture holding capacity and extending the availability of nutrients to crops.

Currently, LUMS's ongoing facts-based technical

and policy work in association with PEDAVER is quite instructive and resulting in developing a strategy with growing acceptance from all types of farmers which is being vetted out both at the provincial and federal levels. It is also in line with FAO's "Save and Grow" paradigm providing a menu of interventions that countries and partners may deploy in context-specific settings to engender a sustained resilience of national crop production and protection systems⁵. This calls for building crop production intensification on farming systems that offer a range of productivity, socio-economic and environmental benefits to producers and to society at large. Farming systems should be implemented using ten recommended management practices on which technical and policy work is showcased to all stakeholders that include⁶

- No till planting- that eliminates disturbance to mycorrhizal
- Organic mulch covered soil that promotes soil biota
- Biodiversity that creates environments where flora and fauna support each other
- Hard pan breaking that reduces water and top soil wastage
- Precision seeding which ensures that "only the required amount of seed is used during the planting season." This also improves plant vigor
- Agricultural Water management (AWM) is essential as it enhances productivity. Even IAEA, is of the view that 70 percent of "global fresh water is used in the agricultural sector. To ensure food security and sustainable water management for agriculture, there is an urgent need to produce more crop per drop of water...and enhance water efficiency...without negative impacts on downstream water quantity and quality."

- Weed management, is very important. Weeds actually don't provide any competition below and above ground, in fact these create more microbial activity.
- Organic matter builds up that promotes water retention and recycling.
- Timely planting / transplanting that can make use of optimal temperature and crop days.
- Lowest trauma to plants by providing more growth days.

The integration of pastures, trees and livestock into the production system and the use of adequate and appropriate farm power and equipment, are also key. Our work has shown that adopting such a policy regime would result in four major benefits:

- Increase Income and reduced cost
- Saving in Machinery Cost
- Enhancing Water Productivity- More Value per Drop
- Protecting the environments

At Market Levels: At the market level, it is critical to develop an efficient and hygienic food supply chains that deliver food from production to consumption nodes in a safe and hygienic way with a low cost and minimal waste. Ensuring continuity of the critical food supply chain for the most vulnerable populations, including between rural, peri-urban and urban areas through support to the sustained functioning of local food markets, value chains and systems focusing on vulnerable small farm holders and food workers as well as areas that are critical to the food supply for vulnerable urban areas.

Under the present crisis role of International Technology Center (ITC), in keeping our social and economic fabrics together is commendable — telecommuting and virtual events replacing unnecessary meetings and other social gathering, online food and grocery is now the safest option. It would

also be remiss not to mention the enormous saving in travel cost and most importantly, bringing down pollution levels on all accounts.

For this strategy to work efficiently, it would be necessary to create an e-driven economic platforms at the production and marketing level that hold promise for implementation of needed actions. According to the FAO, the digitization of transactions and data provides an efficient way of working across production and supply chains. Some examples of the possible use of technological application include: precision agriculture; internet of things for checking soils and water health; introducing traceability of products; big data analytics that can help customize upon weather and agriculture advisory services; e-agriculture market place information; disaster alerts; blockchain that can provide smart contracts, improved supply chain monitoring; food safety and insurance; drones and Geographical Information System (GIS) based application that can support land use mapping; crop monitoring; productivity estimations and weather advisory services; and finally, artificial intelligence that informs plant disease detection, weather prediction, and climate change analytics.

Decreasing the loss of produce through improved transport and more efficient use of existing and modular farm cold storage facilities is critical. Roughly 555 cold storage units have been identified in Pakistan with about 0.9 million tons of capacity but this is underutilised as it is only matched to the seasonal production requirement. Overall, there is limited cold storage facilities close to farms and actions on modular and temporary solutions for this could make an immediate impact on food security.

Conclusion

COVID-19 is exposing new global realities in terms of health, food and the way we live and thus highlighting pressing need for coordinated policy

actions⁷. Health and food security are critical issues for both developing and developed countries, with negative impacts varying from country to country and region to region. What's more, we cannot even capture the impact of COVID-19 on food security and agricultural food systems at this stage. According to the FAO, the full impact of COVID-19 is not clear, hard to measure, and will take months or even years to assess as the pattern of the virus is so unpredictable.

As the crisis builds, the roles of a few sectors have assumed a new found importance, especially food distribution along the supply chain. Meeting basic agriculture and food security needs depends on continuing food production which, in turn, relies on well-functioning supply chains. Yet, as COVID-19 turns into a protracted crisis, meeting these needs will be challenging not only for developed but also for developing countries.

Pakistan has faced numerous challenges in the past, and this present year marks a crisis within a crisis — locusts and COVID-19 have severely impacted the economy, let alone increasing the need for food security. Food and nutritional insecurity have been contributing to the negative impacts on livelihood and economic activity.

In comparison to the world, particularly Africa and South America, Pakistan's response to the pandemic has been good, as there were no significant production problems. Currently, perpetuated major shortages have not been observed, which are factors that could build into the crisis.

The ADB policy brief also reveals that, though farmers were able to harvest the produce but market access to sell produce was affected by number of factors that have already been discussed in this chapter, but perishable commodities were harder hit for disposing produce to the market. Unfortunately, resulting in income losses to the small farmers.

It is important to note that the nation does have good storage facilities of grains. Additionally, the new wheat- crop that has just been harvested more than makes up for potential losses. This means that policy options can certainly bank on accumulated stocks.

If the COVID-19 pandemic does not last for too long, it is believed that the pandemic will not cause a major shortage of staple foods. If, however, the situation prolongs, which seems to be the case, it will impact perishable food items first, and then the staple foods. Perishable food items are plucked, packed and shipped on daily basis, which demands a continuity of farm labor supply.

Labor shortage has not been a major problem in Pakistan as compared to India where labor originates from far off places, like in Bihar or Bangladesh. In Europe and the USA, labor dependency on foreign labor is a policy area that needs rethinking. Further, it is also critical to note that agriculture and agroindustry labor have been considered only after the health sector.

Throughout these challenges, however, Pakistan has good lessons to learn and can now better prepare itself in handling both perishable food items, cereal and sugar.

If the present government can rationalize sugarcane and wheat policies, it would serve as a great contribution to the development of agriculture and agro-industrial sector of Pakistan. Interest groups sitting in parliaments (who are large farmers and mill owners), supported by the bureaucracy/relevant institutions and All Pakistan Sugar Mills Association (APSMA) have a huge stake in this commodity. Under one pretext or the other, they have tilted past policies in their favor largely at the taxpayer's cost. Similarly, the wheat procurement system come at high cost to taxpayers. Expecting the right policy discourse for both strategic commodities is not possible as long as this powerful group influences

policy makers and their decisions⁸. While COVID-19 was at its peak, the political economy of these two commodities were well played out in the media, without anyone uttering a word on the positive impact it can carry if these high prices were transmitted to the rural economy, long being deprived due the strong urban lobbying group.

While COVID-19 is the current disruptive force, we also need to build resilience to economic shocks, climate change, land degradation, biodiversity loss, water scarcity pests and diseases. It is time to turn this crisis into an opportunity to move us towards a better “new normal” (i.e. to transform current cropping systems to more sustainable and resilient ones that have the ability to reduce risks and vulnerabilities to multiple threats, and to absorb, adapt and recover in a timely manner). Any global response to the COVID-19 crisis must include farmers and designate crop production as one of the vulnerable yet essential services. The LUMS / PEDAVR ongoing work provides one of most innovative work in the policy domain and what the country needs now is to adopt and scale it. The bulk of this work was completed during COVID-19, many country and local level voices have expressed that this is the only way forward as the health and food nexus link is being strongly established.

Two case studies presented in the article provide lessons that offer innovations and change as highlighted in Bangladesh's Digital Driven Local Solution and Pakistan's addressing of environmental issues even under crisis.

In the long term, policy environments must support farmers and production systems to address risk reduction, prevention, contingency planning, emergency response and long-term resilience. For this strategy to work efficiently, it would be necessary to create e-driven economic platforms at the production and marketing level that hold promise for implementation of needed actions.

Chapter

10

**Reeling from the Pandemic:
The Doomed Cities of Pakistan**

Reeling from the Pandemic: The Doomed Cities of Pakistan

Asad Ejaz Butt

Pakistan's cities are not large, they are massive. Nearly one in every five people live in one of the 10 large cities. These cities have expanded in all directions with little regard to planning and clearly with even lesser regard to the services that they can deliver to their citizens. The Government's response to the emerging challenges in the cities has been lackluster. The systemic cracks in the cities have widened during the pandemic that have not only exposed the capacity and functioning of the government but also brought back to the fore the debate about mega-cities.

Pakistan's rural settlements have done well to catch up with the cities. Barring a few cities in Baluchistan that continue to remain backward in terms of their performance on various human development indicators and some in Sindh where water scarcity and waste management remain unresolved issues, Pakistan's cities have generally improved. The incidence of a catch-up therefore, implies that not only have cities improved but also their rural counterparts. Almost all of Punjab's rural villages and small towns are now electrified and if electrification is some guide, we have done well to make some development happen. If one takes air quality as a measure, there would be little reason why someone would migrate from one of Pakistan's

rural areas to one of its 10 large cities.

The case of other South Asian cities, Delhi, Dhaka and Colombo, is not very different. Urban sprawl and haphazard development have resulted in growth of slums which are a major cause of pollution, disease, poverty and congestion in these cities. These development problems have a universal presence in South Asian cities. Apart from a better livelihood and slightly higher incomes that cities provide to a select few, they don't really seem to offer much else in terms of quality of life. If cities have nothing exclusive to offer, why is Pakistan's urban population, according to several reports by the UNFPA, expected to rise to 50 percent of the country's total population. It currently stands at around 36 percent of a population of nearly 220 million people. That makes it roughly about 80 million which is more than twice the entire population of Canada and around 20 percent higher than the populations of UK and France.

Urban population generates around 55 percent of Pakistan's GDP¹, employs nearly 21 percent of the labor force and is home to 36 percent of the population. On the contrary, the rural areas host 64 percent of the population and generate only 45 percent of the GDP. Their share in the labor force is

even more striking at 79 percent. These statistics point to the relative productivities of the rural and urban areas and to the variance in the level of wages that are being paid to urban workers in comparison to their rural counterparts. This has incentivized the massive internal migration, a phenomenon that is crippling cities by pressing on the meager resources and making resource planning ever more difficult for city governments. Social development facilities in the cities; hospitals, schools, sanitation and hygiene centers have not developed at the same pace at which population has risen in almost all of Pakistan's large cities. The gaps between the demand and supply of public services in the cities have caused severe market failures and there is little realization amongst planners and policy-makers that the governance problem they face in the cities exists because of an incidence of market failure.

The market failure in the cities is also caused by the unplanned development of public goods and the inability of the government to develop and enforce a pricing mechanism around them. A large part of the provincial budget in Punjab is spent on developing infrastructure, more specifically, roads and overhead bridges. Most of this infrastructure has been developed without estimating the return to investment it would provide. Governments have continued to invest in urban infrastructure primarily to accommodate the increasing demands of an exponentially rising urban population. The political economy of infrastructure development also works out well for the populist political regimes that use the visible manifestations of development to their electoral advantage. Despite, the workings of the political economy in the background, there is every reason to believe that the increase in population is the main driving force behind the urge to develop urban infrastructure.

The World Bank published a report in 2016 in which it claimed that the urbanization taking place in South Asia is messy and hidden². It estimated that the

population of South Asia is expected to rise by 250 million in the next 15 years after rising nearly 130 million between 2001 and 2011. The report postulated that this massive urbanization would contribute immensely to economic growth. In 2016, when this report was published, an estimated 23 percent of the world population and 14 percent of the world's urban population lived in South Asia. If urbanization is considered a menace, things have not gotten better in the last four years. Cities are expanding at the expense of development and growth of rural livelihoods which may also have severe repercussions for food and water security. Recurring wheat and sugar crises indicate that food security would further dampen as the traditional farmer quits the farming business to give in to declining incomes, demographic pressures and the visible rural-urban development disparities.

The Urban-Elite Phenomenon

The pandemic became a great economic equalizer. In most underdeveloped regions, Sub-Saharan Africa and South Asia, those ridden by diseases like Cholera, Malaria, Typhoid and Polio are the poor and the dispossessed. These diseases were rooted out from the western developed world in the 70s and the 80s. The urban elite of the developing world, who possess unlimited power, authority and wealth often, escape the social, political and economic tragedies that regularly befall these regions. The dynamics of COVID-19 however, meant that this caveat would be overturned to make those with more possessions the greatest victims of the disease. Urban areas are ripe with economic activity whose discontinuation to control the spread of the disease implied large economic losses. The greater your fortune, the higher the opportunity cost to pause activity.

An analysis of the governance reforms applied in Pakistan yields that there is an incidence of capture of the state by elite interests which is a major cause

of corruption in the public sector. The elite capture of the state became ever more pronounced during the pandemic when the economic considerations visibly overtook health and safety considerations resulting in a premature reopening of markets. Economic activity had stalled during the pandemic and despite Rs. 144 billion cash transfer by the government under the Ehsas programme, the economic impacts of COVID-19 could not be fully reversed. Inflation was at an all-time high in January 2020, a month before the pandemic hit Pakistan. The purchasing power of the consumer was already on the decline³. That, coupled with rising unemployment and closure of markets carved a critical role for the government that it had to play to steer the economy out of crisis. However, the task before the government was much larger than one that could be afforded by its resource envelope. It was therefore left with only two options; to go back to the international donors which it did eventually, or to give in to the rising pressure from the urban economic elite who wanted an immediate resumption of economic activity, even at the cost of lives that were in the danger of being lost to the wide-spread of the pandemic.

Rural Development: Misconceptions and Realities

The false conception of rural development is to make development interventions that convert rural settlements into urban or peri-urban settlements. Bestowing urban characteristics to rural areas is not rural development. It is in fact the classic definition of urbanization which over the years has come to be confused with rural-urban migration. Many articles and studies on urbanization tend to confuse rural-urban migration and urbanization which amongst other things, masquerades the structural and demographic transition that is taking place. Some demographers may of course, understand the subtle difference between the two phenomena, but many papers in development economics use the terms

interchangeably which is an incorrect basis for analyzing the demographic transition.

When Arthur Lewis, a renowned development economist presented his “two-sector model” in 1954, the developing economies of Sub-Saharan Africa who, fascinated by Lewis' propositions, thought that his ideas were the solution to Africa's labor absorption issues since the surplus labor with low skills and productivity could now be directed to the limited urban and peri-urban settlements they had to provide productive employment to these people and also ensure that some level of industry develops in their urban centers. This did not happen and there are several reasons why Lewis' ideas though a breakthrough at the time, could not materialize into better development for Africa. One of the criticisms that later emerged on the Lewis model was that it ignored the impacts of importing the surplus rural labor into the modern urban industrial sector.

Despite implementation of many rural support programmes, Pakistan's experience with rural development has been an unsuccessful one. Governments misinterpreted rural development and began investing in infrastructure that gave urban characteristics to rural areas. The nature of rural development that should have taken place was to progress while staying within the course of enhancing the rural characteristics of the rural areas. The progress therefore, should have been toward the restoration and strengthening of the rural identity while ensuring that advancements in various fields of technology take place. What really harmed the government's cause in the rural areas was that those rural areas that received attention of the planner and policy-makers turned into urban or peri-urban settlements. While those that did not, retained their rural structure but failed to improve or the “economic well-being of people.” This neglect therefore prevented any real sense of rural development taking place. The lack of rural

development created half-baked cities ill-prepared to manage crises while also leaving underdeveloped rural areas to incentivize migration into the developed cities which have become increasingly overcrowded and underresourced.

Structural Transformation: The Decimation of Agriculture

At the turn of the century in 2000, agriculture contributed around 27 percent to Pakistan's GDP. Ten years later in 2010 that number had dropped quite significantly to 22 percent while most recently in 2020, agriculture's share to GDP had further slumped to 19.3 percent of the GDP. There can be several explanations for this including the decrease in labor supply to the sector, the declining productivities of the traditional seed varieties, lack of availability of water, low adoption of modern high-tech agri technologies and the massive growth in the services sector that has taken a larger share of the growth in GDP than agriculture or industry. Innumerable studies have documented these problems and since agriculture still remains a focus, not primarily for its great share in the country's production but because of a very large part of the labor force that it employs, the country is still regarded to be agrarian and therefore the sector attracts a lot of interest from planners, policy makers and academics.

Labor force participation rates are surprisingly very similar across rural and urban areas. For all ages above 10, the rural labor force participation rate is 57.26 percent comprising a rate of 69.05 percent for males and 45.57 percent for females. In the urban setting, the labor force participation rate, slightly lower than rural, stands at 42.48 percent; 66.73 percent for males and 16.74 percent for females.

The growth in the services sector it seems, has taken a larger share from agriculture compared to industry. The higher labor force participation rates with a

lower share in the aggregate production points to the incidence of lower labor productivity in the rural areas. That is one factor that explains the rural-urban wage and income gaps. The other, of course, is the lack of technological advancements in the agriculture and farm-sector which has disabled the leveraging of the skills of the farmer to make higher revenues from the available technical and financial resources. The rural-urban wage and income gaps are the primary reason why families engaged in the farming business quit their trade to migrate to the urban areas that are now becoming the epicenter of death, disease and poverty. Evidence shows that the standard of living of many such families, who live in much smaller homes in the cities, get lesser food to eat given the urban food inflation in the cities and are exposed to a range of novel diseases prevalent has deteriorated post-migration.

Urban Governance: Vulnerability to Disease, Death and Poverty

The pandemic exposed quite bitterly the cracks prevalent in the way Pakistan's urban agglomeration economy is structured. There is a large retail service industry that thrives on the physical interaction between the consumer and the entrepreneur in a physical market place. This is an arrangement that is quite poorly placed to control the transmission of the virus.

According a brief published by the UN, 90 percent of all COVID-19 cases around the world have originated in the cities. Urban areas worldwide have become the epicenter of the pandemic. The large size of the population and the interconnectivity with other cities and international destinations make urban areas extremely vulnerable to pandemics. Add to that the development deficits in the cities most particularly, lack of access to quality and an affordable healthcare and housing which exacerbate the vulnerabilities of cities to hazards such as natural disasters and pandemics.

What makes an urban setting urban is a good starter to understand why urban areas became the epicenter of the virus and why cities like London, Paris, New York, Delhi and Karachi may return to host the virus as they make their dangerous return to normalcy. Large cities everywhere around the world have three characteristics; a large public transport system, physical markets where businesses meet their potential customers and high-rise residential and commercial buildings. These also include industrial units in the suburban localities that bring into the urban areas agglomeration or external economies. Another characteristic of large cities is the influx of immigrants from smaller cities or rural areas that bring social, religious and ethnic diversity, which has made large cities the polyglots that they have now become.

The defining characteristics of all large cities make them vulnerable to congestion and cohabitation. Markets that are the backbone of the urban economy, urban housing that accommodates the massive influx of people coming into cities in search of jobs and the public transport system, all congest people in closed environments suited perfectly for the unfettered spread of disease, especially communicable diseases like pandemics. Not only do such characteristics of cities make them vulnerable to the spread of the communicable diseases but also the fact that cities generate nearly 55 percent of the country's GDP make it even harder for economies like Pakistan to take the difficult decision of closing them down. Since cities also host around 36 percent of the total population, there is an explanation for why cities became the epicenter of the virus and why the agglomeration effects that make urban economies productive have become the nemesis of the cities during the pandemic.

Life in Pakistan's urban centers is not very simple to understand. In this respect, Karachi is a great example. It is a city of more than 15 million people. A huge number of people migrated not only from

different parts of India at the time of partition but from literally everywhere across the rest of the country. This gave the city a desirable, yet impossible to manage mix of religious, social, cultural and ethnic identities. The claims of the divergent identities became difficult to accommodate under one representative state narrative which gave rise to divisive politics that was often not expressed in the most non-violent of forms. The ensuing law and order situation in the city reflected badly on the city's economy. Despite being a metropolis, it could not maximize the potential that it had due its proximity to lucrative sea trade routes. Albeit at varying scales, the situation in Lahore and some other smaller cities like Peshawar is not much different. The successive governments have failed to maintain peace in Karachi and ensure that the business community is able to operate in a supportive and congenial environment.

Service delivery is a great concern in the urban areas. Service delivery institutions of the government, barring the mobile telecommunications industry, continue to remain under the control of the public sector. Postal and railway services are owned and operated by the government while other services like the printing of national identity cards and issuance of passports also remain fully under government control and supervision. Service delivery in health and education remain an even larger concern with the government spending in health still around 1 percent of GDP while that of education, after significant improvement, has surpassed 3 percent of the GDP. Private educational institutions and healthcare centers have grown tremendously over the last two decades which has given a unique dynamic to these two industries. Quality has improved even though there is room for further improvement since doctors working in the corporate sector are mostly trained in teaching hospitals and universities of the public sector.

Smart Lockdown: Addressing the Pandemic

The Government of Pakistan in June 2020 decided to impose a systematic lockdown with areas demarcated for closure based on the incidence of the virus. The approach, an estrangement from the policy of locking down entire cities, focused on identifying the epicenters of the virus within the city. This brought cities into the focus of the pandemic planning and as expected, it yielded an excellent result. This is exactly why governance best happens when power, authority and decision-making are devolved and decentralized. Policies must be made at the local level and by imaging the impacts that they would have on the local communities. Locking down cities in a systematic manner implied that the local community and administrators in the cities would be taken on board to decide what areas have the highest incidence of the pandemic while deciding which ones should remain open, especially those markets upon which the economy depends. Those could remain open for certain hours during the day. This brought planning and governance from the provincial to the local level thereby reducing the distance between those making the policies and those being affected by them. 'Smart lockdown' was a city governance model based on principles of local governance and it was able to serve both ends of ensuring some level of economic activity and controlling the widespread of the virus.

The international community, an article published in *The News*⁴, is mulling over the likely causes of the rebound in Pakistan's COVID-19 cases. All COVID-19 indicators, including incidence of the disease measured in terms of total number of infected patients daily reported cases the number of deaths or number of patients requiring hospital care all began to decline. This was right after a huge spike that occurred starting the last week of May soon after the country celebrated Eid-ul Fitr, the largest festival of the year that brings millions of people together.

The government was implementing something it called the 'Systematic lockdown' prior to Eid which was later reoriented and dubbed 'Smart Lockdown'. As part of the exercise, the local governments locked down areas where a certain number of cases were identified, provided residents with food, health and other utilities at their doorstep. Quarantine facilities were also provided while synergies with the local law enforcement agencies were ensured to cordon off areas. By mid of June, cases began to decline all of a sudden and by the mid of July, Pakistan was making a speedy recovery. In August, many commentators had termed Pakistan 'COVID-free' since new reported cases had dropped to levels below 150 from somewhat around 20,000 reported cases per day in May. Smart lockdowns, especially in the larger cities, were implanted by the provincial governments and in Islamabad by the help of the federal government. The early success of the program provides evidence on the impact that good governance and enhancement of capacity of local governments can create. Smart lockdown also exposed the indigenous capacity of local governments who had to rely quite heavily on the provincial and federal aid to perform the simple task of locking people down in their vicinity and providing necessary supplies for their sustenance.

Conclusion

The Government of the Punjab recently inaugurated the Ravi Riverfront Urban Development Project and made an exclusive authority to deliver the mandate of the project. Under the project, the government will develop a residential and commercial infrastructure along the embankment of the Ravi River near Lahore. Apart from developing the uninhabited and uncultivated lands along the Ravi, the government also seeks to use this space as a strategic buffer for the city of Lahore which is now accommodating people over its infrastructural, industrial, economic and food production capacity.

For several years now, economists and demographers have proposed the commuter city model followed around the world as a solution to Pakistan's urban problems. Lahore, a city of around 15 million does not have a single commuter city. Those who work in Lahore have to reside in Lahore. The Government's response to this has been that they developed cities further giving rise to the existing disparities between rural and urban centers thereby attracting more rural-urban migration. The policies of providing livelihoods to rural workers or making development happen in the rural areas could have been two policies that the government should have followed to arrest the rapid pace of rural-urban migration. But instead, it followed the idea of developing urban areas as centers of economic growth and development. In the 10 years between 2008 and 2018, the Muslim League government in Punjab, a right to the centre party, developed an infrastructure through external financing from friendly countries like Turkey and China.

The most critical issues that developing states around the world face is regarding their capacity. The deficiencies in state capacity manifests strongly in times of crises. Cities that are overcrowded and underresourced like Lahore and Karachi become ideal hosts to natural disasters and crises. Their response is generally weak, slow to arrive and mistargeted. State capacity is heavily dependent on the quality of institutions. Local governments in Pakistan do not possess the requisite capacity. They have been sued by the military regimes to gain some political strength and legitimacy and during political governments when alternate grassroots political leadership was otherwise available; electoral colleges at the local level were dismantled and local governments were discontinued. There is a continuing debate about the capacity of local governments in the Post-18th amendment scenario. The devolution from the federal to the provinces was only the first step of the process however; devolution demanded a further transfer of power to the districts.

This discussion often boils down to just financial resources and the provincial finance commissions awards. The PFC has been instituted in the provinces but its implementation unlike the NFC has not really taken pace.

The real issue in my opinion is not financial capacity of the provinces, that in its own right is a constraint, but the real issue is the lack of continuity of local (district) government. Unless, there is continuity the political and social organization which is at the heart of development would not really develop at the local level. The local governments are first point of contact for the public and most critical unit when it comes to efficient and effective delivery of services to the public. This role is magnified during crisis situations like the pandemic. The current pandemic really tested the capacity of the local governments and also of the provinces that seemed to look helplessly towards the federal government for policy and institutional support.

The pandemic not only brought the cities back into the mainstream but also shook the governments that were slow to respond to the changing needs of the cities. It also justified the need to take the focus of governance to the cities which must be the primary unit at which governance and administration should take place. The way governments in the provinces and the center conceptualize and look at the cities, needs to be immediately revisited. Cities are not mere geographical divisions of the provinces that have identity, autonomy and certain administrative authorities, some of which they can generously devolve to the regional or local administration. The federalism that Pakistan plans to transition towards requires governance to take place primarily at the local level. Local and city administration is not only better positioned to take critical administrative decisions but is also in a better position to deal with natural disasters, pandemics and other catastrophes. Therefore, the first support that should come must come from the cities' own administrative infrastruc-

ture. Given this background, the capacity of the cities to deal with disasters is the most critical resource that a government may possess. The current administrative system lacks both financial and human resource capacity and as such is an inadequate force to deal with modern threats like climate change, waste management, terrorism and pandemics. The Assistant Commissioner (ACs) and Deputy Commissioner (DCs) who head the existing institutional structure at the tehsils and the districts do not have the capacity to deal with such contingencies and therefore require support from the provincial and federal governments which we have seen in the case of COVID-19 emergency, is often slow to come. Thus, resulting in huge loss of lives and livelihoods.

Policy and Program Recommendations:

- The development of cities cannot be achieved without incorporating the bottom-up approaches to development. Devolution of administrative and financial powers that had to be brought into motion through the implementation of the 18th amendment to the constitution of Pakistan only happened to the extent of the abolition of the concurrent list that transferred some subjects to the provinces. The process of devolution would remain incomplete until the capacity of local governments is enhanced to undertake broad-based reforms and provide end-to-end solutions to all development problems.
- Cities lack the capacity to deal with the problems of the modern world. Sophisticated problems require sophisticated solutions. Cities today are complex webs of interconnected activities and networks that have to be dealt with systems and technologies that operate at a high-level of sophistication. Modern day threats like climate change, terrorism and pandemics have to be dealt with through advancements in climate control,

security and health management systems.

- The large cosmopolitan cities have become increasingly multicultural and multi-ethnic. While diversity is an asset, governing cities requires accommodating the divergent claims of cultures, as Seyla Benhabib, the renowned social anthropologist would put it. The traditional modes of governance that took place through the Commissionary system have become incompatible with modern day requirements of New Public Management (NPM).
- The government is promising to reform the civil service along the lines of recommendations made by the institutional reforms committee headed by the eminent Dr. Ishrat Husain. There is little however, that the committee is planning to do to change at the local level. The focus on the structural changes in the Federal Government would not help the cause of cities which are seriously lacking ownership and control.
- There availability of district-level socio-economic data is extremely low. There is some agri-data available at the district level but other than that the provincial statistics departments do not have the capacity to collect and report data that could inform policy formulation and implementation. The provinces publish a development report titled development statistics but that in Punjab included only 38 of the 244 data indicators included in the SDGs. None of that data ventured into the cities which meant that the majority of the implementation works that takes place in the cities lacks evidence. The policy deficits and failures that one sees with regards to the cities is a product of data poverty that is prevalent even amongst the most developed and advanced cities of Pakistan.
- Provincial Finance Commissions (PFCs) must be activated and provided with the necessary

equipment and technical support to make efficient allocations based on modern techniques like the medium-term budgetary framework. The PFC secretariats in the finance departments in the

provinces are dysfunctional which have to be activated to ensure that the financial capacity of the districts is enhanced.

Chapter

11

Where do we go from here?

Where do we go from here?

Shahid Javed Burki and Shahid Najam

We are not the only group of social scientists that is reflecting on what the COVID-19 means for the world and for the communities in which we live. Another example of group reflection is the faculty of the Kennedy School at Harvard University. For months, the Coronavirus has stalked the globe," wrote the editors of the Harvard Kennedy School Magazine as they asked some in their faculty to think about the change this virus which had spread all over the world was likely to bring. The virus has passed millions one person at a time, reaching every corner of the earth. And it has infected not only people but every aspect of human culture. Policymakers and the public-sector face their biggest test in generations - some say ever as life and livelihood hang in a delicate, terrible balance," wrote the magazine's editors. Responding to the invitation to think about the coming change, Joseph S. Nye Jr. Harvard University Distinguished Service Professor, mentioned those who predict the end of the era of globalization that has prospered under U.S leadership since 1945. Some see a turning point at which China surpasses the United States as a global power. Robert N. Stavins, A.J. Meyer Professor of Energy and Economic Development was of the view that "the coronavirus pandemic will likely have pro-

found effect on both climate change and climate change policy." Adam Grant, Professor of Management and Psychology at the University of Pennsylvania's Wharton talking about the likely impact on the working environment observed "That might mean redesigning jobs to make them more meaningful and motivating, trying to build cultures of creativity and generosity in teams, or even trying to make entire organizations more productive."¹ Stephen Walt, Robert and Renee Belfer Professor of International Affairs suggested that "the COVID-19 pandemic is the most disruptive global event since the Great Depression and World War II."²

The situation with respect to the still-spreading coronavirus continues to remain in total flux as we write the concluding chapter of the 2020 report. Will medical science succeed in finding a vaccine that would check the spread of the virus and also make it less lethal? What would be the impact on the global economy? How would some of the major economies be impacted as the virus works its way through the system? Have the lessons been learned to address, as a matter of urgency, the underlying systemic vulnerabilities to mitigate the risks and loss of precious lives and at the same time alleviate the possible associated economic afflictions? For

Pakistan, the countries that would matter the most are China, India and the United States. Two of these three - India and the United States - are still suffering while China's seems to be making an impressive recovery.

The numbers are in for the world at large and for several countries that have been badly affected by the COVID-19. The United States with less than 4 percent of the world population has one fourth of the world's cases. Of the 1,130,162 people who have died from the pandemic, the United States has close to 226,169 deaths -- that is almost 20 percent of the global total. What happens in the next six months (we write this in late October) will have a lot of meaning for global future. The main reason is whether scientists working on developing a vaccine that would be effective in taming the virus. Also, to watch is the extent of resilience of the social and political structures to the consequences of the hardship brought about by the spread of COVID-19.

The numbers don't look good for India but are unbelievably impressive for Pakistan. Why this difference? We will look first at the Indian situation before attempting to answer this question. The information from India paints a troubling picture: the strategy adopted by Narendra Modi, India's over-confident prime minister, to deal with the COVID-19 has not worked. It has devastated the Indian economy and given the country the second place in the total number of confirmed cases and third in the world in terms of the death toll taken by the disease. India now has the fastest growing COVID-19 crisis, with more than 80,000 new infections reported each day by 15 September. In describing the Indian situation, "scholars use the same words when contemplating India today: "Lost, Listless, Wounded, Rudderless. Unjust" wrote Jeffery Gettleman in an assessment he contributed to his newspaper, The New York Times.

In March 2020, a few days after the World Health Organization (WHO) announced that the world was faced with a pandemic of exceptional virility, Prime Minister Narendra Modi decided to move. He imposed one of the severest lockdowns anywhere in the world. Not unmindful of the consequences his actions would certainly have, he asked for citizen's understanding. "Possibly many would be angry with me for being locked in their homes," he said. But he insisted that there was "no other way to wage a war against the coronavirus." According to the above quoted assessment by The New York Times of the Indian situation, when numbers came in one set "showed that India had paid the price for its strict lockdown. Another number showed that India was paying the price of reopening businesses."

Lockdown restrictions wiped out jobs, businesses and disrupted the Indian economy to an extent the prime minister and his advisers had not foreseen. The economy shrank by 23.9 percent in the second quarter of calendar 2020 compared to the same quarter in 2019. The decline was the steepest among the countries that make up the Group of 20. Britain, with a decline of 21.7 percent in the quarter over the previous year, was next in line. Other large economies also experienced slowdown but it was not as severe as that in India and Britain. The second quarter decline in the United States was estimated at 9.5 percent and Japan registered a fall of 7.6 percent. Before the economy was hit by the virus, India's GDP was around US\$ 2.9 trillion, making it the world's fifth-largest economy, behind the United States, China, Japan and Germany. It is likely to slip into a much lower position once the full impact of the pandemic has worked through the system.

This is opposite to what Prime Minister Modi had hoped to achieve for his country. His aim was to have the Indian economy reach US\$ 5 trillion by 2024 when the country will hold another general election in which Modi hoped to win again follow-

ing the impressive victories in 2014 and 2019. The Indian economy has not contracted for two consecutive quarters - the definition of a recession - for the last 40 years. Now the country is certain to get into a recession possibly one of an extraordinary severity. In eight core industries - including steel, cement, natural gas, and oil refining - output contracted by double-digit percentages in July 2020 over the previous year. As one American newspaper commentator wrote, "that kind of economic slump would be devastating in a country such as India, where 9 out of 10 workers have no job protection or unemployment insurance, leaving them with almost no safety net."

The data released by the government showed that consumer spending, private investment and exports had all suffered. These sectors had contracted by 47 percent. Arun Kumar, a professor at Delhi's Institute of Social Sciences, said that India's economy which includes millions of migrant workers who lost their jobs had suffered a bigger than most people realized. After the government takes the unorganized sector into account the overall economic slide is estimated to be minus 40 percent. The slowdown was unevenly distributed among the sectors of the economy. Good rains meant that agriculture performed reasonably well.

The lockdown was supposed to contain the spread of the virus. That seemed not to have happened in India to the extent hoped. After the Modi government began to relax the lockdown in May, India's coronavirus caseload began to climb again. India now has the world's third largest number of cases of people affected by the virus. That is also the case with deaths from the virus. At 117,365 deaths (23 Oct), India is behind only the United States and Brazil. The country's seven-day average from virus deaths was above 900 since August 10. What went wrong? According to Tedros Adhanom Ghebreyesus, the director general of WHO, reopening too

soon was a recipe for disaster. He said that countries that were serious about reopening must also be serious about slowing the pace of returning to normality. "This may seem like an impossible balance, but it is not. The more control countries have over the virus, the more they can open up."

The situation in India continued to worsen. The country had surpassed Brazil to have the second-largest number of COVID-19 cases in the world. The country added up to 90,802 cases - a fresh global record in the course of the pandemic - with total increasing past 7.6 million. Only the United States with 8.5 million cases had more recorded incidents with Brazil with 5.27 million cases in the third place (22 Oct). Unlike the United States and Brazil where the number of new cases have eased, the spread of the disease in India shows no sign of peaking. Since early August the country has been reporting the highest daily increases in cases in the world. Jayaprakash Muliyl, a leading Indian epidemiologist predicted that India's daily reported cases will continue to rise in coming weeks. He criticized the government for implementing a harsh nationwide lockdown calling it a "waste" that hurt the economy and people's livelihoods. The lockdown "was a cruel joke played on our poor in the name of COVID-19" he was quoted as saying. Some experts caution that India's outbreak is entering a more dangerous phase as the virus spreads to smaller towns and villages. The disease had begun to spread to the countryside, brought there by the migrant workers who lost their jobs in the large cities and returned to their homes in the villages. Containing and addressing coronavirus cases "is going to be more difficult and challenging" in such areas, said S.P. Kalantri, a professor of medicine at the Mahatma Gandhi Institute of Medical Sciences. Health-care infrastructure is weak, access to medical care is difficult and diagnostic tests are lacking. If this trend continues, the worst is still to come.³¹

But the government said that a different measure should be adopted in assessing India's situation and performance. India had a much larger population than Brazil. It points out that the country fares well compared to some countries on measures of mortality from the virus. India has recorded about 85 deaths per million people due to COVID-19 (23 Oct), far lower than in either Brazil or the United States, where the same figure is more than 650.

India's bungled response to dealing with the spread of COVID-19 will have consequences for Pakistan. Viruses don't observe international borders; they don't require visas to move from one country to another. The impact on Pakistan would be for different reasons. Prime Minister Modi, a Hindu nationalist, began to target the large Muslim population in the country as conveyers of the virus. The large congregation of Tableeghi Jamaat Muslims in Delhi was blamed for bringing the virus into India. There was some truth in that assertion. The Jamaat had held a large conference in Malaysia before moving to India and Pakistan. But religious observance by Muslims was not the only reason for large congregation of religious people. Bathing in the Ganges River, regarded as being holy, also brought thousands of people to submerge their bodies in the holy water. The growing anti-Muslim sentiment in India affected relations between and the predominantly Muslim state of Pakistan.

Pakistan's fared much better than its neighbor in terms of the impact of COVID-19 pandemic. In the six-day period from August 26 to August 31, the country reported 31,861 cases, a daily average of 5,310. The trend was sharply downward; from 6,341 cases on August 26 to 4,216 on August 31. Deaths from the pandemic were very low compared to India; the total for this period was only 39, a daily average of 6.5. The latest figures as on 23 Oct also validate Pakistan's consistent good performance compared to India which on 23 Oct show total

deaths at 6,715 with per million deaths 30). Imran Khan, the country's prime minister, came under pressure to follow the Indian example. Many experts and political figures pleaded with him to lock down the county. He refused, pointing out that the country not only had a large population of poor; those who lived in poverty would not be able to deal with job losses and income declines. He proved to be right. He also declined to impose the will of the central government on the provinces. This was another difference from the Indian approach. New Delhi forced the states to follow its dictation. Islamabad allowed the provinces that made up the federation to find the approach that suited them the most. While India suspended all train and inter-city bus traffic, Pakistan kept its people moving. If there were job losses as a result of business closures, people were able to return to their villages from which they had moved.

Pakistan was also preparing for the future. In April 2020, the World Bank agreed to provide concessional finance to Pakistan for "pandemic response effectiveness." According to the bank documents, the project development objective was to prepare and respond to COVID-19 pandemic in Pakistan and strengthen national systems for public health preparedness. The project components included mitigation of disruptive impacts; contingent emergency response; and implementation of management and monitoring evaluation. This \$200 million World Bank initiative was at the request of the government with a view to manage the pandemic while efforts were being made to develop a vaccine to protect people from the virus.

Coronavirus and COVID-19, the disease it causes, have taken a heavy toll that goes beyond the millions of people who have gotten ill and more than a million who have died around the globe. It has had deeper consequences than these; it has affected relations among nations. It has set back what was

regarded as an unstoppable march towards democracy. It is keeping millions of children away from classrooms and confined them to their homes. It has hurt federal political systems in large countries. It has reduced the status of minorities in most societies; there is now mounting evidence that the minorities -- ethnic as well as people of color -- were hurt by the disease more than those belonging to majorities. Dealing with these likely consequences will take more space than available in the concluding pages of an annual report. We will touch briefly upon some of those that have a direct bearing on Pakistan.

We will begin by speculating about the way COVID-19 is likely to affect the United States political system. By January 2021, Donald J. Trump would have completed four years as the United States 45th president. During this period, he has reduced America's political and economic standing in the world. He has also proved that the sociologist Francis Fukuyama was wrong in asserting almost two decades ago that the demise of the Soviet Union meant the end of history. He thought that history was the story of conflicts among different ideologies - between democracy and authoritarianism; between nationalism and openness; between Islam and the West; between Communism and Western liberalism; between systems that placed individuals at the center as against those that gave all powers to the state.

The Second World War was fought to end the threat posed by nationalism to Europe and then to the rest of the world. The Cold War that followed was aimed at containing the Soviet system that put the state at the center of all human activities. History may indeed have ended had a country with the size, wealth and authority to influence global events had taken charge. The United States was one such country. That happened for a bit more than a quarter century - from 1991 when the Soviet Union collapsed and 2017 when Donald J. Trump on January

20th took the oath office and became the president of the United States. Trump's rise to the pinnacle of a system of beliefs and style of governance that was given the name of Trumpism have delivered a serious blow not only to democracy but also to the way the global order is structured. This is the reason why the November 3, 2020 contest in the United States matters not only for America but for the rest of the world as well. That a pandemic would influence the outcome of the election would not have seemed possible in January' 2020 when the coronavirus was found in circulation in Wuhan, an industrial city on the right bank of the Yangtze River in central China. While the virus spread to the rest of the world, in particular to the United States, it effectively altered global history. At the time of this writing, the United States with only 4 percent of the world population had almost one fifth of the world's cases of COVID-19 and about the same proportion of deaths caused by the disease. Donald Trump had a great deal to do with the fact that the United States was to become the epicenter of the pandemic.

Trump demonstrated a number of character weaknesses as he got closer to the November' 2020 elections. By his actions and by his public statements, he placed himself at the center of at least half a dozen crises. Some of these were at home in the United States and several were in the geographic space close to Pakistan. At home, he mismanaged the COVID-19 pandemic first by insisting that it was a minor incident that did not warrant serious government attention. He famously predicted that a dozen or so people who had been affected by it will recover in a few days and the disease will disappear. However, as revealed by Bob Woodward in his book, 'Rage' published in late September 2020, Trump knew that the pandemic would cause a large loss to the United States. But he decided not to tell people that was likely to happen. His reason for suppressing the truth was not to create a panic⁴. But

the human toll taken by the disease could not be kept a secret. The number of people affected climbed to nearly 8.66 million and some 228,423 people in America had died (23 Oct). Trump reacted by passing the management of the crisis to the governors of the fifty states that constituted the United States. He refused to develop a national strategy for dealing with the pandemic nor demonstrated at a personal level as a role model the commitment to follow the internationally recognized SOPs to prevent the spread of the pandemic.

He worked hard to commit fissures in the American society. This effort included belittling the armed forces. In an article authored by Jeffrey Goldberg of the news monthly magazine, *The Atlantic*, he said that those in the military who got injured, died or were captured by the enemy were essentially suckers and losers and did not deserve the respect with which they were treated by the general public. The story created a real stir in the country and Trump used his usual tactics to respond to the crisis. He denied having ever used those words although he had repeatedly said that the late Senator John McCain was not a war hero since he had been captured by the Vietnamese and tortured for six years.

Perhaps the most disturbing move he made was to encourage the extreme right of the American political society to get organized and challenge the extreme left. This resulted in street fights in several cities, in particular those that were led by the Democrats.

There was a great deal of speculation in the United States about the impact on the country of another four years of the Trump presidency. More than a dozen books had been written about the American president and his time in the House. None of these was complementary. The most damning one was by his niece, Mary Trump and his longtime lawyer,

Michael Cohen. The latter was serving time in jail for having lied in Congress about his dealings with his employer. Michael S. Schmidt, a Washington-based correspondent for *The Washington Post*, devoted his 2020 book, *Donald Trump v. The United States*, to lawlessness and chaos brought to the White House. Two men in Schmidt's account, then FBI-director James B. Comey and then White House Counsel Donald McGahn, attempted to stop what the author calls "madness in the White House." They did not try to end Trump's presidency although Comey provided detailed account to Robert Mueller's team of the way the president tried to influence some of the investigations the bureau was conducting. However, according to Schmidt, the two were able to keep the democratic system functioning but barely⁵.

In an editorial titled "Four more years of Mr. Trump's contempt for competence would be catastrophic," *The Washington Post* worried about the likely consequences of the president being reelected on November 3. It gave the editorial a subtitle: "Our democracy in peril." The editorial was published on September 8, the day after the Labor Day, the traditional beginning of the election campaign. The newspaper looked at Trump's record since he was sworn in as president on January 20, 2017. It didn't think the president would change his governing philosophy. "President Trump thinks that he knows better than anyone, but not because he actually knows very much. His 2016 campaign was run from the gut, under the explicit rationale that 'experts are terrible' and that whatever someone with a degree and years of experience could do in any government area, he could do better relying on instinct. His White House has conducted itself according to this philosophy, to devastating effect."

By keeping children away from school in most cases for the entire 2020-2021, academic year would seriously affect an entire generation. The impor-

tance of providing instructions in a classroom which brings together students from diverse backgrounds is an important part of education. How education affects the way people think and act was the subject of a powerful article in The New York Times by Pico Iyer, a travel writer born in Britain of Indian parents and author of 15 books. He returned to the classroom teaching in the spring of 2019 after a hiatus of 37 years. "I suspected that these teenagers would be much less concerned with books than my old classmates and I were, and I was right," he wrote of his experience. He read a piece written for him by a student about Barack Obama's book, *Dreams from my Father*. Although the student was a devoted follower of Trump, he saw much wisdom expressed with great eloquence by the man Trump had followed into the White House.

"More deeply I was impressed by how imaginatively a young person was addressing the central problems of the times: the fact that we were all united mostly by our divisiveness. Whether in the context of climate change or the right to -- let alone the ethics of trying to protect others from a killer virus by simply wearing a mask -- more and more of us refuse even to cross party lines. And in an age of social media, when we can capture the attention world's attention by shouting as loudly as possible, there's every

incentive to take the most extreme -- and polarizing -- position around." Iyer had travelled with the Dalai Lama a year before the pandemic. Even then he heard the Tibetan leaders say that after watching the planet close as a leader of his people he felt that world was suffering through an "emotional disarmament." What he meant by "that striking phrase was that we can see beyond panic and rage and confusion only by using our minds, and that part of the mind that doesn't deal in binaries⁶."

This report will be made public after the citizens of the United States have cast their vote to elect their next president. If Donald Trump gets reelected on November 3, 2020, Pakistan will remain distant from America and move closer to China as it did since 2017 when Trump took residence in The White House. He heaped insults on Pakistan in the first tweet he issued in 2018, accusing the leadership in Islamabad of being two-faced in their relations with Washington. There was some easing of tensions between the two countries following the visit to Washington by Prime Minister Imran Khan in early 2020. However, Trump's Washington made clear that India was its preferred South Asian nation. The Americans would like to have India side with it in its growing unease and hostility with China.

Statistical Appendix

Key Indicators

Statistical Appendix

Key Indicators

Table A-1
Level of Pattern of Growth
(Base year 2005-06)

| | GDP Growth Rate (%) | Incremental Capital Output Ratio | Volatility of Growth% | Extent of Balanced Growth | Intensive Sector |
|----------------|------------------------------------|---|----------------------------------|--|-----------------------------|
| | | | a | b | c |
| 2000/01 | 2.0 | 9.9 | -2.2 | 6.3 | 0.8 |
| 2001/02 | 3.1 | 6.1 | -0.2 | 4.4 | 0.9 |
| 2002/03 | 4.7 | 4.1 | 1.4 | 4.1 | 1.1 |
| 2003/04 | 7.5 | 2.3 | 3.9 | 10.2 | 0.6 |
| 2004/05 | 9.0 | 2.0 | 4.8 | 11.6 | 0.9 |
| 2005/06 | 5.8 | 3.4 | 0.6 | 17.4 | 0.7 |
| 2006/07 | 5.5 | 3.5 | -0.5 | 3.4 | 0.9 |
| 2007/08 | 5.0 | 3.9 | -1.5 | 5.4 | 0.8 |
| 2008/09 | 0.4 | 7.0 | -6.2 | 5.6 | 3.9 |
| 2009/10 | 2.6 | 3.8 | -2.6 | 3.8 | 1.1 |
| 2010/11 | 3.6 | 8.6 | -0.2 | 8.6 | 1.0 |
| 2011/12 | 3.8 | 3.2 | 0.4 | 3.2 | 1.1 |
| 2012/13 | 3.7 | 4.4 | 0.6 | 4.4 | 1.2 |
| 2013/14 | 4.1 | 3.4 | 1.3 | 6.6 | 1.0 |
| 2014/15 | 4.1 | 3.8 | 0.5 | 4.7 | 0.9 |
| 2015/16 | 4.6 | 3.5 | 0.7 | 7.1 | 1.0 |
| 2016/17 | 5.2 | 3.2 | 1.2 | 5.7 | 1.1 |
| 2017/18 | 5.5 | 3.1 | 1.2 | 5.7 | 1.1 |
| 2018/19 | 1.9 | 7.7 | -2.8 | 5.5 | 3.0 |
| 2019/20 | -0.4 | -37.6 | -4.6 | 5.2 | -14.0 |
| Average | 4.1 | 2.5 | -0.2 | 6.4 | -0.3 |

Note: The base year of all calculations has been changed from 1999-00 to 2005-06. The values before 2005-06 will differ compare to previous reports.

n.c. = not computed

Source: Pakistan Economic Survey (various issues)

^a Difference in the growth rate of GDP during a year minus the trend growth rate (as approximated by the average growth rate during the previous five years)

^b Computed as the weighted (share of value added in 2005-06) standard deviation of the growth rates of individual sectors during a particular year. The larger the magnitude of this indicator the less the extent of balanced growth

^c Labor-intensive sectors of the economy are identified as agriculture, small scale manufacturing, construction, whole sale and retail trade, public administration and defence and social services

Table A-2
Level and Pattern of Investment
(Base Year 2005-06)

| | Gross Domestic Capital Formation (% of GDP) | National Savings as % of Investment | Private Investment as % of Total Fixed Investment | Share of Private Investment in Labor Intensive Sectors (%) |
|----------------|---|---|---|---|
| 2000/01 | 17.2 | 95.8 | 64.6 | 46 |
| 2001/02 | 16.8 | 110.7 | 72.9 | 39.8 |
| 2002/03 | 16.9 | 123.1 | 73.9 | 38.6 |
| 2003/04 | 16.6 | 107.8 | 72.7 | 38.6 |
| 2004/05 | 19.1 | 91.5 | 74.9 | 42.9 |
| 2005/06 | 19.3 | 78.8 | 76.3 | 34.3 |
| 2006/07 | 18.8 | 74.5 | 73.3 | 35.4 |
| 2007/08 | 19.2 | 57.3 | 72.7 | 34.6 |
| 2008/09 | 17.5 | 68.6 | 73.6 | 38.3 |
| 2009/10 | 15.8 | 86.1 | 73.9 | 43.2 |
| 2010/11 | 14.1 | 100.7 | 74.4 | 46.5 |
| 2011/12 | 15.1 | 86.1 | 71.9 | 47.1 |
| 2012/13 | 15 | 92.7 | 73.1 | 47.3 |
| 2013/14 | 14.6 | 91.8 | 72.6 | 46.1 |
| 2014/15 | 15.7 | 93.6 | 73.8 | 43.0 |
| 2015/16 | 15.7 | 88.5 | 73.0 | 41.4 |
| 2016/17 | 16.2 | 74.1 | 14.6 | 43.2 |
| 2017/18 | 16.7 | 62.3 | 15.1 | 42.7 |
| 2018/19 | 15.40 | 70.1 | 13.8 | 46.4 |
| Average | 16.6 | 87.1 | 63.7 | 41.9 |

Source: Pakistan Economic Survey (various issues)
SBP, annual Report (various Issues)

Table A-3
Agricultural Growth and Profitability
(Base Year 2005-06)

| | Growth Rate (%) | Share of Growth in Crop Sector (%) | Volatility in Agriculture Growth | Change in of Output Prices to Fertilizer Prices (%) | Change in Agriculture Terms of Trade with Manufacturing (%) |
|----------------|----------------------------|---|---|--|--|
| 2000/01 | -2.2 | n.c | -7.1 | -3.8 | 4.6 |
| 2001/02 | 0.1 | n.c | -2 | -5.4 | 0 |
| 2002/03 | 4.1 | 57.8 | 2 | -0.3 | -0.8 |
| 2003/04 | 2.4 | 42.4 | 0.4 | -0.3 | 0.2 |
| 2004/05 | 6.5 | 90.9 | 4.4 | -4.8 | -2.1 |
| 2005/06 | 6.3 | n.c | 4.1 | -4.1 | -6.7 |
| 2006/07 | 3.4 | 55.8 | -0.5 | 10.2 | 4.2 |
| 2007/08 | 1.8 | n.c | -2.7 | -20.6 | -4.2 |
| 2008/09 | 3.5 | 62.5 | -0.6 | -10 | 9.6 |
| 2009/10 | 0.2 | n.c | -4.1 | 17.3 | 1 |
| 2010/11 | 2 | 20.8 | -1.1 | -4.9 | 3.3 |
| 2011/12 | 3.6 | 36.3 | 1.4 | -48.3 | -9 |
| 2012/13 | 2.7 | 23.2 | 0.5 | 7.8 | 6.2 |
| 2013/14 | 2.5 | 47.8 | 0.1 | 10.6 | 3.1 |
| 2014/15 | 2.1 | 14.1 | -0.1 | 4.7 | 7.9 |
| 2015/16 | 0.2 | n.c | -2.4 | 6.9 | 6.6 |
| 2016/17 | 2.2 | 16.5 | 0.0 | 30.9 | 3.1 |
| 2017/18 | 4.0 | 37.1 | 2.0 | 2.4 | -0.5 |
| 2018/19 | 0.6 | n.c | -1.6 | 19.4 | -7.7 |
| 2019/20 | 2.7 | 39.2 | 0.9 | 2.8 | 2.3 |
| Average | 2.4 | 41.9 | -0.3 | 1.5 | 1.1 |

n.c. = not computed, n.a. = not available

Source: Pakistan Economic Survey (various issues)

Table A-4
Level of Pattern of Manufacturing Growth
(Base Year 2005-06)

| | Manufacturing Growth Rate (%) | Large Scale Manufacturing Growth(%) | Small Scale Manufacturing Growth (%) | Share of Growth in Large Manufacturing (%) | Manufactured Goods Exports Growth(%) |
|----------------|--|--|---|---|---|
| 2000/01 | 9.3 | 11 | 6.2 | 76.3 | 21.3 |
| 2001/02 | 4.5 | 3.5 | 6.3 | 52 | 7.7 |
| 2002/03 | 6.9 | 7.2 | 6.3 | 68.2 | 21.3 |
| 2003/04 | 14 | 18.1 | -20 | 84.6 | 8.9 |
| 2004/05 | 15.5 | 19.9 | 7.5 | 87 | 21.7 |
| 2005/06 | 8.7 | 8.3 | -20 | 75.2 | 13.5 |
| 2006/07 | 9 | 8.7 | 7.5 | 74.3 | 3.5 |
| 2007/08 | 6.1 | 4 | 8.7 | 58.9 | 13.2 |
| 2008/09 | -4.2 | -8.1 | 8.1 | n.c. | 14.5 |
| 2009/10 | 1.4 | 4.8 | 7.5 | 24.9 | 12.8 |
| 2010/11 | 2.5 | 1.1 | 7.5 | 54.8 | 26.7 |
| 2011/12 | 2.1 | 1.13 | 7.5 | 44.5 | 1.2 |
| 2012/13 | 4.9 | 4.46 | 8.28 | 74.9 | 8.4 |
| 2013/14 | 5.7 | 5.46 | 8.29 | 78.3 | 11.3 |
| 2014/15 | 3.9 | 3.28 | 8.21 | 68.2 | -8.4 |
| 2015/16 | 3.7 | 2.98 | 8.19 | 65.0 | -5.3 |
| 2016/17 | 5.8 | 5.64 | 8.15 | 77.2 | 0.3 |
| 2017/18 | 5.4 | 5.12 | 8.17 | 78.4 | 14.9 |
| 2018/19 | -0.7 | -2.7 | 8.2 | n.c. | -8.5 |
| 2019/20 | -5.6 | -7.8 | 1.5 | n.c. | 22.7 |
| Average | 4.9 | 4.8 | 4.6 | 67.2 | 10.1 |

n.c. = not computed

Source: Pakistan Economic Survey (various issues)
SBP, Annual Report (various issues)

Table A-5
Inflationary Trends

| | Rate of Inflation (Consumer Prices) (%) | Rate of Inflation (Food Prices) (%) | Core Rate of Inflation (Non-Food Non-Energy) (%) | Rate of Inflation in Import Prices (%) | Rate of Monetary Expansion less GDP Growth (%) |
|----------------|---|-------------------------------------|--|--|--|
| 2000/01 | 4.4 | 3.6 | n.a | 15.2 | 7 |
| 2001/02 | 3.5 | 2.5 | n.a | 0 | 12.3 |
| 2002/03 | 3.1 | 2.8 | n.a | 3.7 | 13.3 |
| 2003/04 | 4.6 | 6 | 3.9 | 14.8 | 12.1 |
| 2004/05 | 9.3 | 12.5 | 8.8 | 10.4 | 10.3 |
| 2005/06 | 7.9 | 6.9 | 7 | 17.3 | 9.4 |
| 2006/07 | 7.8 | 10.3 | 6.9 | 7.6 | 13.8 |
| 2007/08 | 12 | 17.6 | 10.2 | 27.7 | 10.3 |
| 2008/09 | 17 | 23.5 | 11.4 | 25.1 | 9.2 |
| 2009/10 | 10.1 | 12.6 | 7.6 | 6.2 | 9.9 |
| 2010/11 | 13.7 | 18.3 | 9.4 | 20.7 | 12.2 |
| 2011/12 | 11 | 11 | 10.6 | 21.8 | 9.8 |
| 2012/13 | 7.4 | 7.1 | 9.6 | 7.8 | 12.3 |
| 2013/14 | 8.6 | 9 | 8.3 | 4.3 | 8.5 |
| 2014/15 | 4.5 | 3.5 | 6.5 | 1.3 | 9 |
| 2015/16 | 2.9 | 2.1 | 4.2 | -13.45 | 9 |
| 2016/17 | 4.1 | 3.9 | 5.2 | -1.34 | 8.4 |
| 2017/18 | 3.8 | 2 | 5.4 | 5.15 | 3.9 |
| 2018/19 | 7.34 | 4.6 | 7.92 | 6.06 | 8.0 |
| Average | 7.53 | 8.41 | 7.68 | 9.49 | 10.04 |

n.c = notcomputed

Source: Pakistan Economic Survey (various issues)

SBP, Annual Report (various issues)

IMF

Table A-6
Fiscal Policy
(Percentage of GDP)

| | Revenue | Expenditure | Non-Interest Current Expenditure | Budget Balanced | Revenue Deficit/ Surplus |
|----------------|--------------|--------------|--|--------------------|--------------------------------|
| | a | b | c | d | e |
| 2000/01 | 13.1 | 17.1 | 9.4 | 4.0 | -2.2 |
| 2001/02 | 14 | 18.6 | 9.6 | 4.6 | -1.7 |
| 2002/03 | 14.8 | 18.4 | 11.4 | 3.6 | -1.5 |
| 2003/04 | 14.1 | 16.9 | 9.8 | 2.8 | 0.3 |
| 2004/05 | 13.8 | 17.2 | 9.7 | 3.4 | 0.5 |
| 2005/06 | 14 | 17.1 | 9.7 | 4 | -0.5 |
| 2006/07 | 14.9 | 18.1 | 10.9 | 4.1 | -0.8 |
| 2007/08 | 14.1 | 21.4 | 12.8 | 7.3 | -3.3 |
| 2008/09 | 14 | 19.2 | 10.7 | 5.2 | -1.4 |
| 2009/10 | 14 | 20.2 | 11.7 | 5.2 | -2.1 |
| 2010/11 | 12.3 | 18.9 | 12.1 | 6.5 | -3.5 |
| 2011/12 | 12.8 | 21.6 | 12.9 | 8.8 | -4.5 |
| 2012/13 | 13.3 | 21.5 | 12 | 8.2 | -3 |
| 2013/14 | 14.5 | 20 | 11.3 | 5.5 | -1.5 |
| 2014/15 | 14.3 | 19.6 | 11.3 | 5.3 | -1.8 |
| 2015/16 | 15.3 | 19.9 | 11.8 | 4.6 | -0.8 |
| 2016/17 | 15.5 | 21.3 | 12.1 | 5.8 | -0.8 |
| 2017/18 | 15.1 | 21.6 | 12.6 | 6.5 | -1.8 |
| 2018/19 | 12.9 | 22.0 | 13.2 | 9.1 | -5.8 |
| 2019/20 | 16.9 | 24.4 | 13.9 | 7.5 | -3.6 |
| Average | 14.19 | 19.75 | 11.45 | 5.60 | -1.99 |

Source: Pakistan Economic Survey (various issues)

SBP, Annual Reports (various issues)

MoF, Fiscal Operations

a Total revenues of federal and provincial governments

b Revenue and development expenditure of federal and provincial governments

c Current expenditure minus interest payments

d Total revenue minus total expenditure

e Revenue receipts minus current expenditure of federal and provincial governments

Table A-7
Fiscal Policy
(Base Year 2005/2006)

| | Primary Balance (% of GDP) | Total Government Debt (% of GDP) | Effective Interest Rate on Domestic Debt % | % of Deficit Financed by Bank Borrowing % |
|----------------|-------------------------------|--|--|--|
| | a | b | c | |
| 2000/01 | 1.3 | 82.4 | 11.3 | -18.4 |
| 2001/02 | 0.1 | 73.1 | 12.4 | 7.4 |
| 2002/03 | 0.4 | 68.9 | 10.2 | -30.5 |
| 2003/04 | 1.1 | 62.3 | 9.4 | 47.4 |
| 2004/05 | 0.3 | 58 | 8.5 | 27.7 |
| 2005/06 | -1.1 | 53.1 | 10.2 | 21.8 |
| 2006/07 | -0.1 | 52.1 | 13.8 | 37.5 |
| 2007/08 | -2.7 | 56.8 | 13.7 | 80.5 |
| 2008/09 | -0.3 | 57.8 | 12.9 | 54.2 |
| 2009/10 | -1.9 | 59.9 | 12.4 | 32.8 |
| 2010/11 | -2.7 | 58.9 | 10.5 | 51.5 |
| 2011/12 | -4.3 | 54.3 | 10.7 | 52 |
| 2012/13 | -3.8 | 59.3 | 9.7 | 79.5 |
| 2013/14 | -1 | 60.2 | 9.5 | 23.3 |
| 2014/15 | -0.6 | 58.1 | 9.3 | 61.2 |
| 2015/16 | -0.3 | 58.3 | 8.1 | 58.3 |
| 2016/17 | -1.6 | 61.3 | 8.2 | 55.7 |
| 2017/18 | -2.2 | 61.5 | 8.1 | 49.57 |
| 2018/19 | -3.6 | 66.5 | 8.8 | 65.70 |
| Average | -1.21 | 61.20 | 10.40 | 39.85 |

n.a = not available

Source: Pakistan Economic Survey (various issues)

SBP, Annual Reports (various issues)

Ministry of Finance, Fiscal Operations

Ministry of Finance, Debt Policy Statements

a Estimated as revenue receipts minus total expenditure net of interest payments

b Includes domestic and external debt

c Defined as the ratio of domestic interest payment to outstanding domestic debt

**Table A- 8
Monetary Policy**

| | Net Foreign Assets a (% Change of broad money) | Net Assets a (% Change of broad money) | Private Credit Growth % | Interest on Six Treasury Bill (%) | Broad Money Growth (%) | Spread Interest Rate |
|----------------|---|---|--|--|---------------------------------------|-------------------------------------|
| | a | | b | | | c |
| 2000/01 | 5.1 | 3.9 | 4.0 | 10.4 | 9.0 | 8.3 |
| 2001/02 | 13.4 | 2.0 | 4.8 | 8.2 | 15.4 | 9.6 |
| 2002/03 | 17.5 | 0.5 | 18.9 | 4.1 | 18.0 | 7.8 |
| 2003/04 | 2.1 | 17.5 | 29.8 | 1.7 | 19.6 | 6.3 |
| 2004/05 | 2.2 | 17.1 | 33.2 | 4.7 | 19.3 | 7.4 |
| 2005/06 | 2.5 | 12.4 | 23.2 | 8.5 | 14.9 | 8.7 |
| 2006/07 | 8.1 | 11.3 | 17.2 | 8.9 | 19.3 | 9.0 |
| 2007/08 | -7.8 | 23.2 | 16.4 | 11.5 | 15.3 | 8.4 |
| 2008/09 | -3.2 | 12.8 | 0.7 | 12.0 | 9.6 | 9.8 |
| 2009/10 | -6.9 | 0.8 | 3.9 | 12.3 | 12.5 | 9.3 |
| 2010/11 | 23.5 | -2.4 | 4.0 | 13.7 | 15.9 | 9.0 |
| 2011/12 | -40.2 | 5.3 | 7.5 | 11.9 | 14.1 | 8.3 |
| 2012/13 | -55.8 | 4.1 | -0.6 | 8.9 | 15.9 | 7.0 |
| 2013/14 | 97.9 | -3.1 | 9.1 | 9.7 | 12.5 | 7.3 |
| 2014/15 | 20.5 | -1.3 | 11.7 | 8.0 | 13.2 | 5.6 |
| 2015/16 | 9.1 | -0.7 | 11.1 | 5.9 | 13.8 | 5.7 |
| 2016/17 | -47.4 | 4.0 | 16.8 | 6.0 | 13.7 | 5.0 |
| 2017/18 | -98.7 | 23.5 | 13.0 | 6.8 | 9.7 | 5.2 |
| 2018/19 | -8235.6 | 26.5 | 11.6 | 12.7 | 11.3 | 5.9 |
| Average | -436.5 | 8.3 | 12.4 | 8.7 | 14.4 | 7.6 |

Source: State Bank of Pakistan, Annual Report (various issues)

IMF Article 4 Consultation's Press Releases

a Growth rate of net foreign assets/broad money ratio

b Growth rate of net domestic assets/broad money ratio

c Difference between the interest rate on advances and deposits

Table A- 9
Effective Tax Rates
(Tax Revenues as percentage of Tax Basea)

| | Income Tax (%) | Customs Duty (%) | Excise Duty (%) | Sales Tax (%) | Total FBR Taxes (%) |
|----------------|-------------------------------|---------------------------------|--------------------------------|------------------------------|------------------------------------|
| 2000/01 | 4.2 | 17.8 | 4.7 | 13.1 | 9.3 |
| 2001/02 | 4.5 | 12 | 4.3 | 14.1 | 9.1 |
| 2002/03 | 4.4 | 14.8 | 3.6 | 14.8 | 9.4 |
| 2003/04 | 4 | 14.3 | 3.1 | 12.7 | 9.2 |
| 2004/05 | 3.8 | 11.2 | 2.9 | 10 | 9.1 |
| 2005/06 | 3.9 | 12.1 | 2.4 | 10.3 | 9.4 |
| 2006/07 | 5 | 10.5 | 2.7 | 9.9 | 9.7 |
| 2007/08 | 4.9 | 7.6 | 2.9 | 10 | 9.8 |
| 2008/09 | 4.6 | 5.7 | 5.7 | 10 | 9.1 |
| 2009/10 | 4.8 | 5.7 | 5 | 10.1 | 8.9 |
| 2010/11 | 4.4 | 5.6 | 4.3 | 10.3 | 8.6 |
| 2011/12 | 4.6 | 5.6 | 3.3 | 11 | 9.1 |
| 2012/13 | 4.3 | 5.5 | 4.1 | 11.4 | 9.5 |
| 2013/14 | 4.6 | 5.2 | 4.3 | 12.6 | 10.1 |
| 2014/15 | 4.9 | 6.6 | 5.3 | 13.9 | 11 |
| 2015/16 | 5.3 | 8.7 | 5.6 | 16.1 | 12.4 |
| 2016/17 | 5.5 | 8.8 | 5.4 | 14 | 12.5 |
| 2017/18 | 4.5 | 9.1 | 4.9 | 13.7 | 11.2 |
| 2018/19 | 5.2 | 10.0 | 5.1 | 14.4 | 10.7 |
| Average | 4.60 | 9.31 | 4.19 | 12.23 | 9.90 |

Source: SBP, Annual Reports (various issues)

Pakistan Economic Survey (various issues)

FBR (various issues)

a Tax bases for various taxes are as follows:

Income tax: Non-agricultural GDP

Custom Duty: Value of imports

Excise Duty: Value of manufacturing

Sales Tax: Value of Imports plus value of manufacturing

Table A-10
Balance of Payments

| | Current Account Balance (% of GDP) | External Debt as a % of Exports of Goods and Services | Net Reserves (US \$ Million) | Gross Reserves (In months of next year's import of goods and services) | Change in Value of Pakistani Rupee per US \$ (%) | Change in Real Effective Exchange Rate (%) |
|----------------|---|--|---|---|---|---|
| 1999/2000 | -1.6 | 322.1 | 908 | 0.9 | 3 | -0.6 |
| 2000/01 | -2.7 | 309.4 | 1679 | 1.7 | 12.8 | -2.5 |
| 2001/02 | 3.9 | 282 | 4337 | 3.7 | 5.1 | -2.6 |
| 2002/03 | 4.9 | 229 | 9529 | 6.5 | -4.7 | -0.1 |
| 2003/04 | 1.8 | 209.5 | 10564 | 5 | -1.5 | -1.8 |
| 2004/05 | -1.4 | 183.7 | 9805 | 3.5 | 3.1 | 0.3 |
| 2005/06 | -3.9 | 167.2 | 10760 | 3.7 | 0.8 | 5.3 |
| 2006/07 | -4.8 | 169.2 | 13345 | 4.5 | 1.3 | 0.5 |
| 2007/08 | -8.4 | 169.7 | 8577 | 2.7 | 3.2 | -1.12 |
| 2008/09 | -5.5 | 212.9 | 9118 | 2.8 | 25.5 | -1.0 |
| 2009/10 | -2.3 | 218.9 | 12958 | 2.9 | 6.8 | 1.0 |
| 2010/11 | 0.1 | 204.9 | 14784 | 3.6 | 2.0 | 6.5 |
| 2011/12 | -2.1 | 212.2 | 10803 | 2.9 | 4.4 | 3.1 |
| 2012/13 | -1.0 | 182.3 | 6008 | 1.5 | 8.4 | -1.3 |
| 2013/14 | -1.3 | 204.1 | 9098 | 2.7 | 6.3 | 7.3 |
| 2014/15 | -0.8 | 204.9 | 13532 | 3.9 | -1.5 | 5.4 |
| 2015/16 | -1.7 | 250.9 | 18130 | 9.0 | 2.9 | 4.6 |
| 2016/17 | -4 | 284.6 | 16242 | 4.4 | 0.4 | 3.5 |
| 2017/18 | -3.5 | 293.2 | 9866 | 2.2 | 4.9 | -6.1 |
| 2018/19 | -4.8 | 316.5 | 7735 | 1.4 | 23.9 | -15.4 |
| Average | -2.0 | 231.4 | 9888.9 | 3.5 | 5.4 | 0.3 |

Source: SBP, Annual Report (various issues)
IMF Article IV Consultation's Press Releases

Table A- 11
Level and Pattern of Trade

| | Merchandise Export Growth (US \$; %) | Extent of Product Diversificat ion of Exports (a) | Extent of Market Diversificat ion of Exports (a) | Merchandise Import Growth (US \$; %) | Change in Terms of Trade % | Share of Essential Imports (a) % |
|----------------|---|---|--|---|-------------------------------------|---|
| 1999/2000 | 11.2 | 0.801 | 0.23 | 13.1 | -15.3 | 39.3 |
| 2000/01 | 12.5 | 0.798 | 0.221 | 14.3 | -7.1 | 39.3 |
| 2001/02 | 2.3 | 0.786 | 0.221 | -7.5 | -0.2 | 36.7 |
| 2002/03 | 20.1 | 0.791 | 0.223 | 20.1 | -9.6 | 35 |
| 2003/04 | 13.5 | 0.782 | 0.232 | 21.2 | -4.1 | 28.8 |
| 2004/05 | 16.2 | 0.778 | 0.218 | 38.3 | -6.5 | 25 |
| 2005/06 | 14.3 | 0.769 | 0.229 | 31.7 | -11.7 | 30.7 |
| 2006/07 | 3.2 | 0.737 | 0.228 | 8 | -3.7 | 29.1 |
| 2007/08 | 16.5 | 0.722 | 0.21 | 31.2 | -11.5 | 38.9 |
| 2008/09 | -6.4 | 0.709 | 0.202 | -10.3 | 2.8 | 41.9 |
| 2009/10 | 2.9 | 0.717 | 0.199 | -1.7 | 0 | 42.3 |
| 2010/11 | 28.9 | 0.697 | 0.184 | 14.9 | 2.8 | 42.7 |
| 2011/12 | -2.6 | 0.722 | 0.183 | 12.8 | -5.9 | 45.8 |
| 2012/13 | 0.4 | 0.719 | 0.189 | -0.6 | -2.4 | 42.9 |
| 2013/14 | 1.1 | n.a | n.a | 3.8 | 0.9 | 40.8 |
| 2014/15 | -3.9 | n.a | n.a | -0.9 | -0.4 | 33.8 |
| 2015/16 | -12.2 | 0.768 | 0.202 | -2.5 | 4.2 | 25.5 |
| 2016/17 | -1.7 | n.a | n.a | 18.5 | 1.5 | 24.5 |
| 2017/18 | 12.6 | 0.745 | 0.193 | 16.2 | -0.6 | 44.4 |
| 2018-19 | -2.2 | n.a | n.a | -7.4 | 1.5 | 40.3 |
| Average | 6.3 | 0.8 | 0.2 | 10.7 | -3.3 | 36.4 |

Source: Pakistan Economic Survey (Various issues)

United Nations Conference on Trade and Development

State Bank of Pakistan, Annual Report (various issues)

a This is estimated by UNCTAD as the Herfindahl Index, which ranges from a value of 0 to 1.

The greater the extent of diversification the lower the value of the index

Essential imports are of wheat, edible oil, fertilizers, medicines and POL products

Notes

Chapter 1

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- 4 See his collected essays for several references to "induced coma." Paul Krugman, *Arguing with Zombies: Economics, Politics and the fight for a better future*, W.W. Norton, 2020.
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Chapter 2

- 1 A research team at the University of Oxford publishes an index that allows for comparison among stringency of measures across countries. Out of a maximum of 100, Pakistan's stringency index value averaged 94 in April, among the top 5 percent of all countries (see University of Oxford, 2020).
- 2 According to a newspaper report, only 50 out of 2700 factories in Karachi were operating on the first working day after the lockdown was imposed in Sind on March 23, 2020 (see Hussain, 2020).
- 3 Those eligible for special relief include the 4.5 million recipients covered by the existing BISP social protection program as well as 3 million new recipients added by relaxing BISP eligibility rules and 2.5 million cases considered to be part of the vulnerable group.
- 4 The policy rate was reduced by an additional 400 basis points in May and now stands at 7 percent.
- 5 This assessment was made by an IMF team in April 2020 in connection with the approval of a loan of \$1.386 billion to Pakistan under a Rapid Financing Instrument operation undertaken to help the country manage the impact of Covid19.
- 6 There is a big difference between the IMF's projection of a -1.5 percent growth rate for FY20 (made in April) and the Government's latest projection of a -0.4 percent growth rate (released in July). Since the Government's projection is more recent, we have used it in this report.
- 7 The survey results must be viewed as illustrative only since the sample was small and not random.
- 8 For Pakistan, the stringency index values put out by a team at the University of Oxford read as follows for months since April: May 86; June 63; July 67; and August 53.

- 9 Providing a broad review of Pakistan's pandemic related actions and policies to August 2020, the International Crisis Group feared that “August could see another surge since the public, misled by the clergy and mixed messaging from the government itself, may disregard precautions during religious festivities and ceremonies.”
- 10 For a recent assessment of Pakistan's experience since the lifting of the initial lockdown, see Khurram Hussain (August 31, 2020).
- 11 Covid19 infection cases have been averaging about 1200 per million of population in Pakistan in recent months, compared to 3100 per million in India. Covid19 deaths have been averaging about 29 per million of population in Pakistan compared to 52 in India. One reason for the difference in cases detected may be the higher rate of testing in India, almost three times higher than in Pakistan. This does not explain the higher rate of mortality, though. That may be partly a function of differences in demographic structure: the median age in India is 28 whereas it is only 24 in Pakistan. For more, see Daniyal (2020).
- 12 The June update of the World Economic Outlook of the IMF revised global growth forecasts downward to -4.9 percent for 2020, 1.9 percentage points below the April 2020 forecast, because of a worse than expected impact of Covid19 around the world. The update also revised the growth estimate for 2021 to 5.4 percent, noting that this would leave 2021 GDP some 6½ percentage points lower than in the pre-COVID-19 projections of January 2020.
- 13 This chart uses the growth rates reported by the Government for 2019 and 2020 and the targets and projections reported by the IMF for 2021 through 2024.
- 14 The World Bank projects that the poverty headcount may increase by 11 million in Pakistan in 2020. These projections are entirely dependent on economic growth projections and will change as the latter change.

Chapter 3

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- 2 Michael S. Rosenwald, "History's deadliest pandemics, from ancient Rome to modern America," *The Washington Post*, April 12, 2020, pp. A14-A15.
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Chapter 4

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Chapter 5

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Chapter 6

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Chapter 7

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