



Is the forecast for Corona Virus as bleak as they say?

Yes, lockdown, lockdown, lockdown!

Executive Summary

About IPR

Institute for Policy Reforms is an independent and non-partisan think tank established under Section 42 of the Companies Ordinance. IPR places premium on practical solutions. Its mission is to work for stability and prosperity of Pakistan and for global peace and security. IPR operations are supported by guarantees from the corporate sector.

COVID 19's exponential growth worldwide:

- By 20 March 2020, there were 246,032 cases in 176 countries with 10,049 deaths,
- It took about a month to get to 1,000 cases
- 41 days more to get to 100,000, 10 folds' increase in 41 days
- 12 days more to get to 200,000

With no government intervention, the cases increase 10 times in 19 days, and then faster

COVID 19 in Pakistan, 475 cases with 3 deaths on 20 March:

- First cases on 26 February
- It took 15 days to reach 20 cases
- 10 more days to reach 475 cases, 24 times in 10 days

We are on an explosive trajectory

Modeling commissioned by Dawn newspaper forecasts *that without serious intervention:*

- Cases will double every six days and then faster
- By 5 June, in six weeks, we will have 20 million cases
- Will there even be a country left to govern?

Pakistan's broken health infrastructure:

- Doctors to patients 1 per 1,000
- Hospital beds 0.6 for 1,000 people
- ICU beds even fewer
- Massive shortage of virus testing
- Massive shortage of ventilators
- Not enough ambulances

Only option is prevention through lockdown. Peak must never exceed health system capacity

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4- Shami Road, Lahore Cantt,
Pakistan

UAN:111-123-586

<http://ipr.org.pk>

Act now: *The choice between profit and lives is a false choice. The economic cost of an out of control pandemic is incalculable. It will be a catastrophe from which recovery will take years.*

Immediately:

- Impose curfew, call in defence forces, allow movement of essential people only: health workers, police, sanitary staff, food and medicine delivery
- Seal borders, do not reopen Afghan border, *already late*
- Open massive kitchens for the poor, double Ehsaas/BISP payments
- Commission all trucks and heavy vehicles to ensure supply of essentials
- Import test kits, PCR machines, ventilators, thermometers, masks, sanitizers, and protective gears immediately
- Run massive and blanket awareness drives

Policy 1 Prevent:

- Lockdown

Policy 2 Identify:

- Find out where is the virus by having lacs of officials take temperature everywhere
- Test those with fever. *Testing is critical*
- Isolate positive cases: set up massive isolation centers

Policy 3 Treat:

- Make medicine available
- Set up field hospitals with ICUs
- Import all equipment necessary. Declare health staff essential service, to be available 24/7

The myth that summer will burn it away is a risky assumption**Institutional:**

- Create a separate fund under PM. MoF must earmark Rs. 2 Trillion. Stop other expenses
- Set up three executive groups and empower them:
 - Health service group to prevent, identify, test, treat, in charge of all CV matters
 - Economic group: politicians, industry, business, engineers, economists, to keep essential industry moving, minimize disruption, and for post-disruption recovery
 - Welfare group: Shaukat Khanum, Edhi, Saylani, Chippa, Transparent Hands, Aurat Foundation, Ansar Burney, food kitchen and help distressed. GoP may fund

Policy 4 Very important to seek help from Turkey and especially China:

- Turkey has controlled by sealing borders from day 1. They have offered 500,000 test kits to USA. Get the same number from them.
- Get test kits, PCR machines, Ventilators, ICU units and equipment from China. China's capacity for test kits and masks is in millions. They have sent in large numbers to US and Europe
- Get Chinese health workers and medical staff. Make them set up field health units

This is a common challenge we must face. We are one country, one region and one world.

Repeat: Nothing will work unless people stay home voluntarily or by force

Is the forecast for Corona Virus as bleak as they say?

Yes, lockdown, lockdown, lockdown

If the slew of information about the Corona Virus overwhelms anyone, they are not alone. Information and knowledge are evolving, and data gets obsolete even before it is out in print. Yet, after weeks of chaos, there is better understanding of the intense challenges that the new virus brings. Even skeptical governments are coming to terms with the enormity of the task.

Within the constraints of uncertainty and changing events, this paper tries to address the following:

- The scale of the challenge, data and information
- Analysis of options
- What remedies are available to governments to act quickly

Our next paper, in coming days will analyze and recommend

- Economic implications: what may happen in various scenarios and how to mitigate disruption and revive the economy.
- What the future holds for the world. The enduring changes the pandemic could likely bring to our lives, regional and international relations, and Pakistan's role

Though the paper depends on domestic and international sources, at all times its focus will be on Pakistan. The virus is new, and its spread is sudden. No one was ready. Yet, countries that have responded decisively and forcefully are doing better through mitigation or suppression methods. Fears remain that more than half the population could get the virus¹. It is possible to avoid such outcomes if governments take prompt and valid response. This would also help with recovery of those infected. Denial is not an option. Nor would success ride on just a wish and a prayer.

The facts first: We are looking at a massive scale

Since the first report to the World Health Organization by China on 31 December 2019, 176 countries and territories have 246,032 confirmed cases of the virus, up to 20 March 2020. Of these, 10,049 have died so far. The number of people who have recovered is 88,483. There are still 147,500 currently infected patients, about 7,400 of whom are in

¹ BBC News Coronavirus: Up to 70% of Germany could become infected – Merkel, 11 March 2020

serious or critical condition. The data is up to 3 PM GMT on 20 March 2020². To view how it has grown worldwide, see Table 1.

Pakistan Health Ministry's National Institute for Health coordinates data for Pakistan³. By 19 March 2020, total tests conducted were 1,979, of this 302 cases were confirmed. There have been two deaths so far and five patients have recovered⁴. NIH also gives numbers for an in between category of 'suspected cases' in hospitals. That number is 734, suggesting that more people are admitted as coronavirus patients than confirmed by tests. If they are admitted for observation, there is no information about what is observed and what are the results.

On 7 January 2020, WHO identified it as a new virus strain. It is the fifth virus in the Corona family. COVID 19 indicates its ID by the year of occurrence.

Table 1 Progression of Cases Worldwide				
Date	Confirmed cases	Death	Active	Infected/Million
19 Mach 2020	228,385	9,357	133,043	28.65
10 March 2020	118,948	4,296	48,031	15.31

² Worldometer based on WHO data. Worldometer is a visualization platform.

³ The ministry's official name is Ministry of National Health Services, Regulations, and Coordination

⁴ National Institute of Health, Daily Situation Report-COVID 19, 19 March 2020

1 March 2020	88,585	3,050	40,431	11.40
1 February	14,553	304	13,921	1.88

Source: For cases, Worldometer. For infection per million Worldometer with World Population Review

Growth in number is because of rapid spread of the virus. “Each Covid-19 case leads to 2.5 more infections over five days”⁵. It has surged also with more testing, as governments come to term with the threat. The virus has a very high index of reproduction. Also, at the start, governments were slow to react with containment strategies and testing.

This gradual response is visible from the sudden growth in confirmed cases. World over, in ten days from 10 March, confirmed cases grew by 92%, compared to 34% in the previous ten days. The number of daily new cases has grown, see figure below. Also, new cases far exceed the number of recoveries. See subsequent figure.

Pakistan is now on an explosive path. Since 10 March, growth has been 24 times in 10 days, from 20 to 475. Trend data is not available easily as NIH only makes available its current Situation Report for the day. It had to be constructed from several sources. Timeline below⁶:

⁵ Vox The Covid-19 question: Can social solidarity replicate faster than the virus? Ezra Klein, 17 March 2020

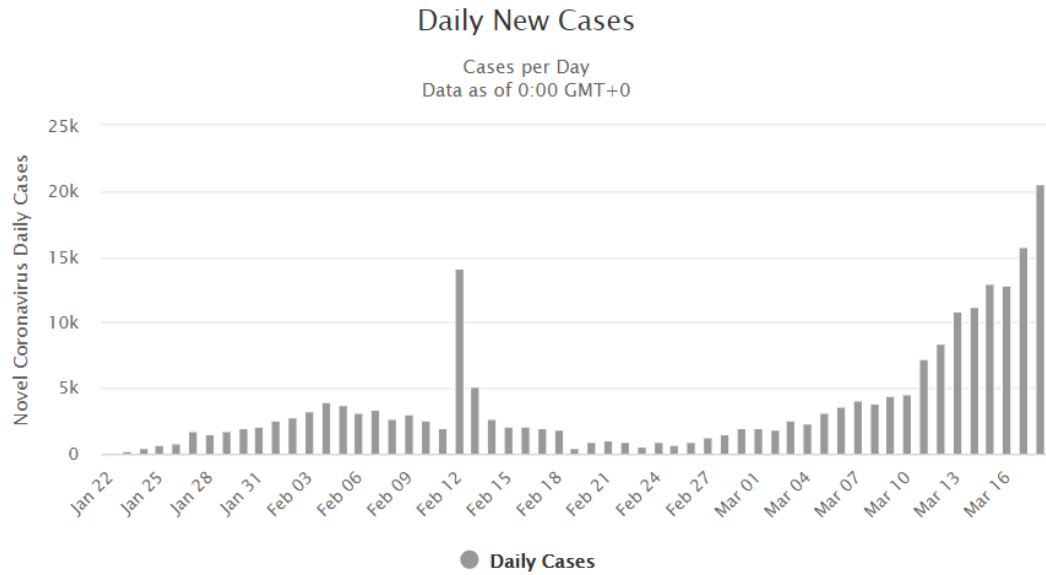
⁶ Wikipedia ‘2020 coronavirus pandemic in Pakistan’, numbers based on official sources and leading newspapers.

Timeline

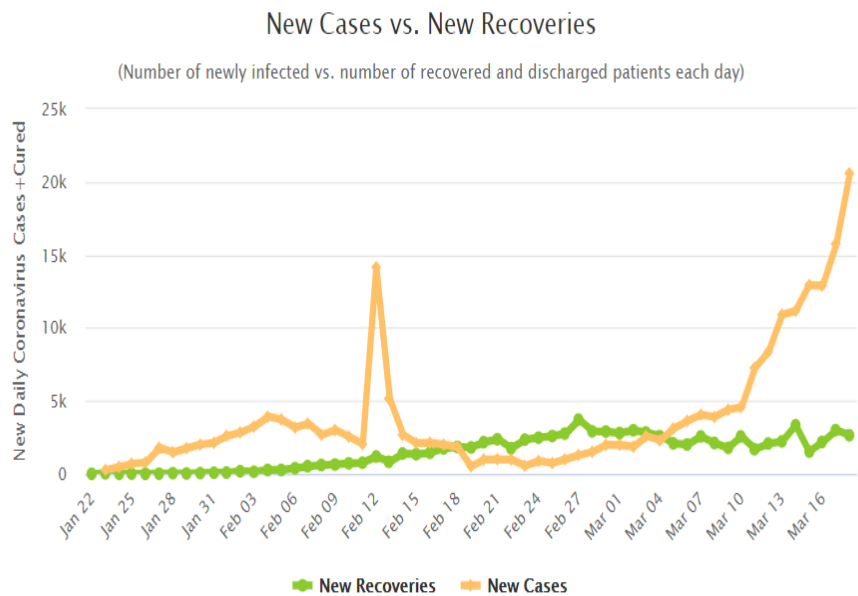
- 26 February 2 cases in Karachi and ICT
- 2 March 5 cases in Karachi and ICT
- 8 March 7 cases, Karachi and ICT
- 9 March 13 cases, in Karachi and ICT
- 10 March 19 cases, above two cities plus Hyderabad and Quetta¹
- 13 March 28 cases with one case in Taftan
- 14 March 53 cases, first instance of spread to individual who had not traveled, also first case in Lahore (confirmed on 14 March had returned earlier)¹
- 15 March 179 cases¹ with 33 in Sukkur
- 19 March 302 cases, in several districts of Punjab, Sindh, KP, Balochistan, and in GB and AJK
- 20 March, 475 cases, 3 deaths

Since its first occurrence, the virus has spread to all parts of the country. People without travel history were infected and Pakistan has suffered three deaths. The threat was growing rapidly. Pakistan has been late to recognize its significance. In fact, many countries were slow to catch up.

The apathy was found also in the West, as seen by the number of new cases every day and the growing gap between new cases and recoveries. There are now no new cases in China and few in rest of East Asia, so they are all growing in Europe and South Asia. See figures below:



Source: **Worldometer** - www.worldometers.info 



(idea by Rudi Roth)

Source: **Worldometer** - www.worldometers.info 

Clearly, we are up against a huge challenge which had become worse because governments all over did not realize its gravity.

Yet, there is a positive side. Though the virus spreads fast, it is less lethal. Compared to SARS, its fatality rate is low, 4% Vs 10%⁷. See Figure below.

2019 novel coronavirus compared to other major viruses

VIRUS	YEAR IDENTIFIED	CASES	DEATHS	FATALITY RATE	NUMBER OF COUNTRIES
Ebola**	1976	33,577	13,562	40.4%	9
Nipah	1998	513	398	77.6%	2
SARS	2002	8,096	774	9.6%	29
MERS*	2012	2,494	858	34.4%	28
COVID-19**	2020	214,894	8,732	4.1%	157

Sources: Johns Hopkins, CDC, World Health Organization, New England Journal of Medicine, Malaysian Journal of Pathology, CGTN

*As of November 2019 **As of March 18, 2020 at 3:30 pm EST.

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However, COVID 19 spreads faster. SARs took 130 days to reach 1,000 cases, COVID 19 has taken about a month⁸.

The growth rate in Pakistan suggests that the worst is still to come. The timeline given a few pages before, shows how rapidly it has spread from the country's first confirmed cases on 26 February 2020. To reiterate, it has grown 24 times in 10 days.

There may be a tempering of the steep curve as the number of new cases of returning pilgrims decline. But that is for the future to decide. For now, it seems that we are unable to rise to the challenge of controlling an infectious virus:

- The country was slow to respond with mitigation strategy.
 - We kept open our borders.
 - Social distancing unfolded incrementally and is not yet be fully in place. It is still voluntary and not enforced.
 - Testing still eludes most Pakistanis.

Lockdown is the only credible solution. This is a new virus. No one knows how it works. The myth that summer will burn it away is a risky assumption

By 19 March, Pakistan had tested 9.5 persons per million. Total number of tests were 1,979. South Korea set an example for the rest of the world by conducting 211 thousand tests by

⁷ Business Insider, How the coronavirus compares to SARS, swine flu, Zika, and other epidemics, 10 March 2020

⁸ World Economic Forum, 3 Charts to compare Corona Virus to previous outbreaks, 19 February 2020

9 March, or 4,100 per million. Most European countries are in the three digits per million. Malaysia has tested 100 per million and Hong Kong over 2,000.

Though testing is a key strategy, it is not an easy solution for a country with weak health capacity. The first step is to collect samples. The samples are put in a solution that releases the cells. These are test kits. Sealed specimens must be transported quickly. An automated process extracts the sample's genetic material. The extracted samples are then run through the PCR machines. As analysis needs a large amount of the relevant material in the sample, the machine replicates and amplifies its DNA. The PCR or polymerase chain reaction machine "is a fast and inexpensive technique used to "amplify" - copy - small segments of DNA"⁹. While the PCR process is used for many viruses HIV, Hepatitis C and more, the 'primer' used for each differs. This primer matches the genetic material in the sample with the COVID 19 gene. This part of the process is unique. In January, China made public the virus' genome, which facilitated testing worldwide.

We can see why Pakistan has tested so few cases. We have imported test kits in fair numbers, but we are limited by the number of PCR machines and the number of trained people running them. Also, it needs quality ability at all stages. The turn around time is necessarily longer than the patient needs. And in a pandemic speed is of essence. A positive case could get worse without treatment or the patient may not respect quarantine constraints during the waiting period¹⁰.

⁹ National Human Genome Research Institute, Polymerase Chain Reaction (PCR) Fact Sheet

¹⁰ The Guardian, Coronavirus testing explained, 18 March. Wired: Everything you need to know about Corona virus testing, 16 March for contents of this and previous paragraph

Pakistan will pay a heavy price for not shutting its borders immediately

If testing exacts such stress on capacity, imagine, and shudder, at the prospects of thousands and lacs of infected patients needing hospitalization. There is just not enough capacity in the health infrastructure. We must reinforce and deepen mitigation strategy immediately, so that it not just flattens the curve but reverses it. Overwhelmed hospital capacity will be a crucial cause for a national emergency in the not too distant future. And if death occurs in large numbers, recovery will take many years.

Pakistan has 0.6 hospital bed for 1,000 people. The number for China is 4.2, South Korea is 11.5, and Malaysia 1.9. Bangladesh and India too have higher numbers of beds. Pakistan has just 1 doctor for each thousand. The corresponding data is 1.8 for China, 2.4 in South Korea, and 1.4 in Malaysia. Our number is better than of India and Bangladesh¹. (World Bank data)

We must immediately shut borders, enforce lockdown, and import testing equipment.

Data in Pakistan is scarce and often indicators do not tally with one another, which makes them seem unreliable. It also makes more difficult the job of health service providers. Yet, we may safely conclude that not much is working. Look at the evidence:

- The first stated goal of GoP's 'National Action Plan for Corona virus disease' issued in March 2020¹¹ is that the outbreak "is contained and responded ... to prevent its further spread". Yet, we see no containment strategy in support of this commendable goal. Pakistan did not shut borders with the two countries where the virus first occurred and spread. The countries happen also to be our neighbours. In fact, pilgrims were allowed to go to Iran even as those returning were put in 'quarantine'. The country may pay a high price for this.

¹¹ NIH Pakistan website, the document has no date

- A credible containment strategy was to seal borders, preventing the virus from entering the country. Returning Pakistanis could have been tested and positive cases sent to isolation wards or if needed, to ICUs. We kept our borders open.
- World over, social distancing became a credible method of virus containment. This wasn't put into practice until 17 March 2020, and may not yet be policy. In fact, the country's cricket board may have shown the way to government in this regard. Even now, third week March, there is no awareness campaign to inform and convince everyone about the need for social distancing. In a country with few resources, this is the most effective method for containment. With a population that is not well informed, the population had to be educated and coached.
- The National Action Plan also pledges to identify and activate available financial resources. There is no known funding allocation to combat the disease at the federal level. Perhaps the document on the NIH website is not approved policy. It is not clear.
- We do not have enough testing equipment. Number of tests conducted so far is low compared to needs. Also, Pakistan does not seem to have a clear policy on testing. When testing capacity is low, this is especially useful. With a population of 2 Million, Islamabad has performed 184 tests, by 19 March. While Punjab, with a population of 110 million, has performed a total of 254 tests. ICT has tested 92 cases per million compared to 2.3 for Punjab. It is not clear if anyone is coordinating the policy on testing¹².
- There is concern about quality of tests. Results are inconsistent. Of those tested, ICT has 2.7% confirmed cases. Punjab has 13% and Sindh 23%. See Table.
- Also, there are concerns about effectiveness of quarantine facility. In Sindh and Khyber Pakhtunkhwa, 134 returning pilgrims from Iran tested positive after 14 days of quarantine at Taftan ¹³. See also a report by the Guardian, titled 'No facility, no humanity'.¹⁴ This could become the single biggest reason for community spread of the virus. There are reports now of infection among those who have not travelled outside the country.
- It seems that, perhaps inadvertently, Pakistan exported masks in large numbers, even as its own citizens looked to get one. This has put our health workers at risk.
- Our best hope lies in social distancing.

¹² NIH Pakistan, Daily Situation Report COVID 19, 19 March 2020.

¹³ Al Jazeera, Pakistan's spike in coronavirus cases raises quarantine concerns, 16 March 2020

¹⁴ The Guardian, Pakistan coronavirus camp: 'No facilities, no humanity', 19 March 2020

<p>Table 2</p> <p>Testing in Pakistan</p> <p><i>As of 19 March 2020</i></p>				
	Tested	Confirmed cases	Tests per million	Confirmed cases/Tests
ICT	184	5	93	2.7
Punjab	254	33	2.3	13
Sindh	908	205	19	23
Khyber Pakhtunkhwa	67	17	2.2	28.3
Balochistan	637	23	51.6	3.6
AJK	23	1	5.7	4.3
Gilgit Baltistan	90	13	47.3	14.4
Total	1979	302	9.3	15.2
Source: NIH Daily Situation Report COVID 19, 19 March 2020				

<p>Table 3</p> <p>Testing in Select Countries</p> <p><i>As of 9 March 2020</i></p>				
Select countries	Tested 9 March	Confirmed cases 9 March	Tests per million	Confirmed cases/Test
South Korea	210,144	7,478	4,099	3.6
Hong Kong	16,000	116	2,134	0.7
Italy	60,761	9,172	1,005	15
UK	26,261	321	387	1.2
Malaysia	3,132	117	97	3.7

USA	8,554	704	26	8.2
Vietnam	2367	N/A	24	-
Turkey	940	N/A	11	-
Pakistan as of 19 March	1,979	302	9.3	15.2
Source Worldometer				

Social distancing

*“The priorities become clear - food, health, family. That’s it. You adapt in a moment,”
resident of the Italian town of Codogno about the lockdown.*

This paper has highlighted already the country’s meager health capacity. Pakistan cannot deal with a sudden rise in infected patients. Even ventilators, needed for acute cases of breathing problems that this virus creates, are not enough. Pakistan has 3 ventilators for one million people. Many of those in stock are not working. Plus, the equipment is needed for other illnesses, not just for coronavirus patients.

The reason for the stress on our health system is clear when we compare total expenditure with other nations. Pakistan spends 2.8% of GDP on health spent by public and private sources. Public sector spending is 1% of GDP. China, on the other hand, spends 5% of GDP. We are low even by South Asia’s modest standards. The figure for Nepal is 6.3%, Sri Lanka 3.9% and India 3.7%. Bhutan and Afghanistan too spend a higher percentage. Social distancing will reduce incidence of the disease.

What is social distancing?

A conscious effort to keep distance between people is an effective means of reducing and delaying an outbreak. A distance of about six feet between individuals is necessary. Social distancing means avoiding crowded space or gatherings. No contact greeting such as a wave in place of a handshake and reducing contact with high risk groups.

The practice of distancing involves staying home as much as possible, including for meals. To rely on delivery rather than to shop. Reducing use of public transport or to do so at off-peak hours. Avoiding gyms and work from home should be practiced widely ¹⁵. Quarantining and isolation of at risk and positive cases are necessary.

¹⁵ Government of Canada Social Distancing (infographic)

Modeling based on past practices offers guidance. A 25% reduction in contact may result in 60% fewer deaths and 62% less infected cases. Decrease in these rates is more with higher reduction in contact¹⁶.

Social distancing intervention	Estimated infections	Destined deaths
Business as usual	25,000	400
25% reduction	9,700	160
50% reduction	4,800	100
75% reduction	1,700	30

Description about the lockdown in Italy, tells us what to expect if it were ever to happen here¹⁷. The first consequence was panic buying. By restocking shelves, stores reassured customers that they were not about to run out of supplies. Next, fake news overwhelmed social media. As this directly conflicted with government's effort to broadcast medical advice, they brought out experts in large numbers to contest fake news. There were economic consequences, which people continue to suffer from. Yet with the somber news that met them daily (about sickness and death) and government enforcement, people adapted¹⁸.

A word about economic consequences. There is no doubt that the cost is high. But usually it is misunderstood, and countries can make a huge mistake. Posing it as a choice between lives and profits is a false way to frame the discussion. Societies do not have to choose one over the other. The cost of sickness and death to a society and the economy is very high. They bring widespread disruption in economic activity.

Those societies that think they have opted for profits are mistaken. They will lose economically as well as in human lives. As medical services face a deluge of sick people, the cost to the economy would be manifolds. And lives would still be lost in large numbers. Governments must choose wisely. A subsequent paper will deal with how a pandemic transmits costs to the economy.

Mitigation Vs Suppression

In fact, new research by a team from Imperial College London, recommends more extreme and long-term distancing. Given the virus' high reproduction rate, research suggests that each infected case could transmit the virus to 2.5 persons in five days. At this rate, there

¹⁶ Working paper – model-based estimates of COVID-19 burden, Institute for Disease Modeling; Bill & Melinda Gates Foundation; Fred Hutchinson Cancer Research, March 10, 2020

¹⁷ BBC, What UK can learn from Italy's lockdown

¹⁸ BBC, Lessons from the lockdown. What happens when everyday life suddenly changes?

would be 244 more cases in a month. The model assumes that the infected person is not quarantined. That person may have infected others even before they knew they were positive and quarantined. Flattening the curve, through social distancing, would delay the burden on hospitals and other health services¹⁹.

New research led by Dr. Neil Ferguson of Imperial College finds that mitigation "might reduce peak healthcare demand by 2/3 and deaths by half. However, the resulting mitigated epidemic would still likely result in hundreds of thousands of deaths and health systems (most notably intensive care units) being overwhelmed many times over²⁰." These are severe consequences despite mitigation.

The model builds on three scenarios in the US. First scenario is that the government does nothing. Second considers mitigation through isolation, quarantining, and social distancing of those at risk (above 70 years of age). The third scenarios considers mitigation for the whole population. In the first case, 81% of the US population is infected with 2.2 million deaths. Within weeks, demand for ICU beds would be thirty times of capacity. The second scenario is as quoted above. Demand of ICU beds down by 2/3 and deaths halved.

What we need is suppression by including the whole population in the mitigation strategy. That is to reverse the curve by bringing the rate of reproduction to less than 1. That, however, calls for extreme measures that involve social distancing for months, not for days, and for everyone. This is needed until a vaccine is found, other wise infection would surge again as soon as the intervention recedes.

The doomsday scenario is not outlandish. Antivirals are harder to find than antibiotics. Focusing on the US, one expert said that “ American public should expect a challenging 18 months, noting the country hasn't faced a pandemic of this scale in 102 years, and has enjoyed mostly peace and growth in the last 75 years.” If USA is affected, the whole world would suffer. That is even more reason for Pakistan to take decisive action.

If the decline and delay doesn't happen immediately in Pakistan, we would be faced with the problematic choice of whom to admit and who to send back from hospitals. In plain words, we would have to choose between who will live and who should die. Because without lowering reproduction rate, our hospitals and medical services would not be able to cope with the pressure. And that decision is due in weeks not months.

Anyone saying there is no cause for worry hasn't seen the research. There is much to worry, though not to panic. Governments all over must act now. In fact, the time for doing so was yesterday.

¹⁹ Imperial College London Website, COVID-19: Imperial researchers model likely impact of public health measures, 17 March

²⁰ University of Minnesota, Center for Infectious Disease Research and Policy, Modeling study suggests 18 months of COVID-19 social distancing, much disruption, 18 March 2020. The quote is of Dr. Neil Ferguson.

Testing:

‘What China did was “testing, testing, testing, find the virus”. Donald McNeil, Science and Health Reporter, New York Times on MSNBC

How did China overcome?

A second wave is entirely possible, as economic activity picks up and borders open. But for now, China has the disease firmly in control.

Finding the virus means testing. But if tests are scarce, who does one test? In Wuhan, Chinese authorities did everything possible to find cases with symptoms. At all public places, they checked *everyone’s temperature*. In the bus, train, or in buildings each person was checked for fever. The protocol for those with fever was very intense and detailed. They were immediately sent to “fever clinics” for examination. Preliminary tests helped rule out cases that have fever from other causes. They then carried out a localized CT Scan of the lungs and then decided to test.

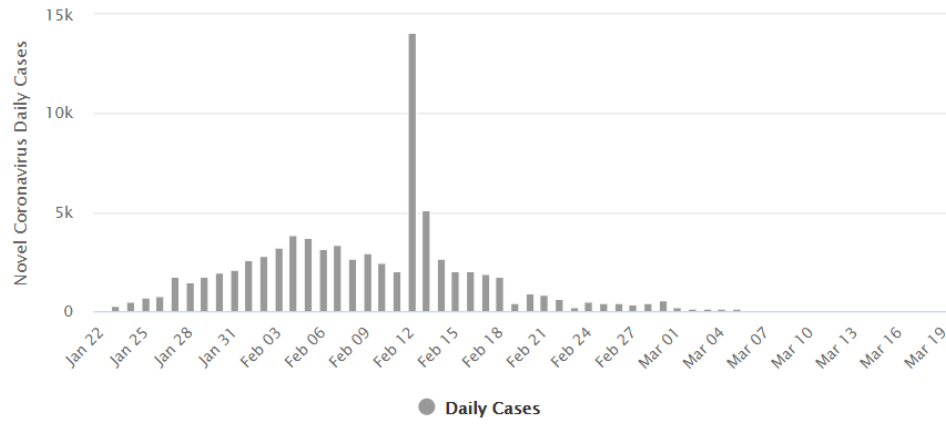
It is not possible for Pakistan to follow such a rigorous course of action. They are recounted to emphasize the challenges countries are up against and how they cope. Pakistan’s limited capacity for all of the preliminary steps before tests are administered, means that we may have to test even more.

The impressive results of the Chinese rigour is for all to see. Figures below²¹:

²¹ Worldometer visualization of WHO data

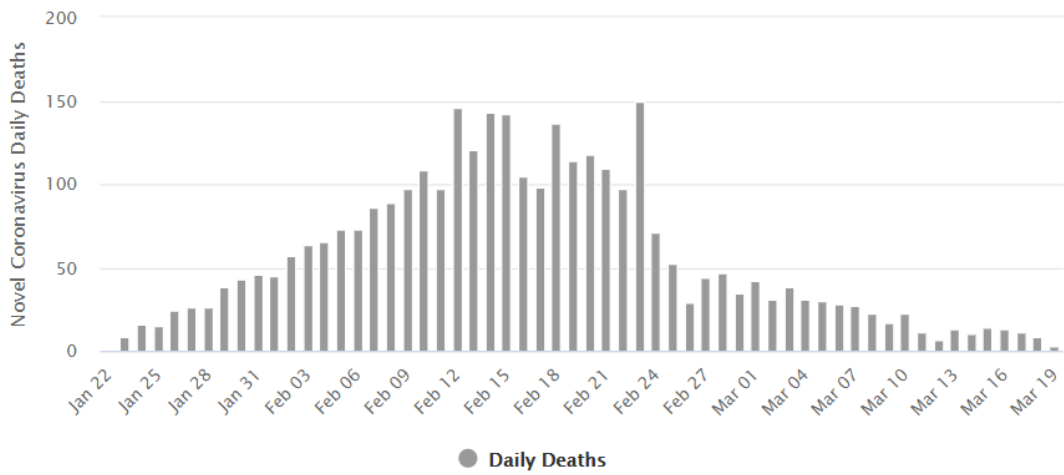
Daily New Cases

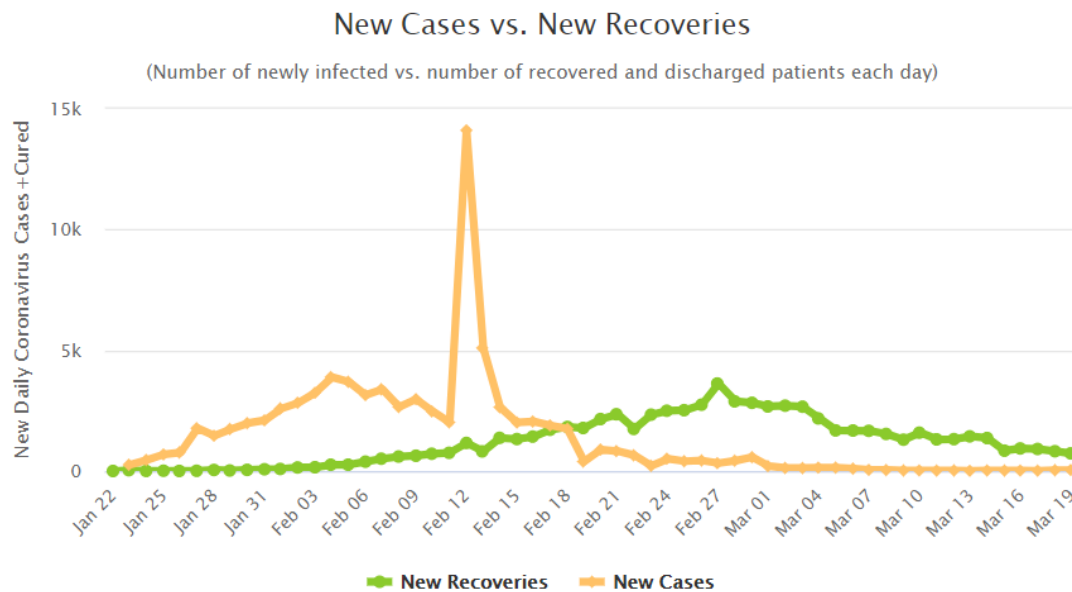
Cases per Day
Data as of 0:00 GMT+0



Daily Deaths

Deaths per Day
Data as of 0:00 GMT+8





How did South Korea overcome?

*“We acted like an army” expert at the
Korea Centre for Disease Control and Prevention²²*

South Korea went a less disciplined, yet no less effective route. It tested and tested. There has been no lockdown there. The country did not forget its lesson from the MERS epidemic of 2015. Then, 38 people died, and the economy took a hit. People who had MERS could not get confirmation that they had the disease and so missed treatment. With the coronavirus, it was different^{23, 24, 25, 26, 27}.

On 27 January, with a mere four confirmed cases, South Korea took effective action. Twenty companies were invited to a conference. There was an urgent need for effective coronavirus testing. The companies were asked to produce testing equipment. Government promised quick regulatory approval. A week later, South Korea gave its first approval. By end February Korea had drive-through testing centres. Soon, they could test thousands daily. By 12 March, that country had the capacity for 140,000 tests a week. By now, it has

²² Reuters, Special Report: How Korea trounced US in race to test people for coronavirus, 18 March 2020.

²³ ProPublica, How South Korea Scaled Coronavirus Testing While the U.S. Fell Dangerously Behind, 15 March 2020

²⁴ BBC, Coronavirus in South Korea: How 'trace, test and treat' may be saving lives, 12 March 2020

²⁵ NPR, South Korea's Drive-Through Testing For Coronavirus Is Fast — And Free

²⁶ Science Magazine, Coronavirus cases have dropped sharply in South Korea. What's the secret to its success?, 17 March

²⁷ Reuters: Special Report: How Korea trounced U.S. in race to test people for coronavirus, March 18

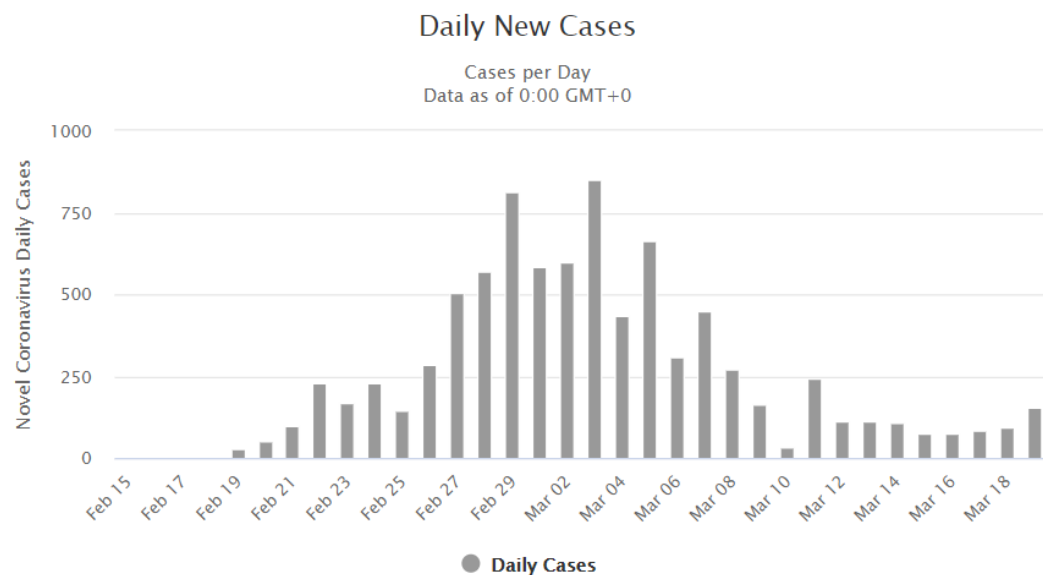
tested 280,000 cases. Some estimates put that number at over 300,000. The tests are 98% reliable. Not bad for a system set up on the run. Against a WHO estimated world average of 3.4% fatality for the coronavirus, South Korea's ratio is 0.7%. On 18 March, just ninety-three cases were detected, down from a daily peak of 909 two weeks earlier. Clearly, their approach may have saved lives.

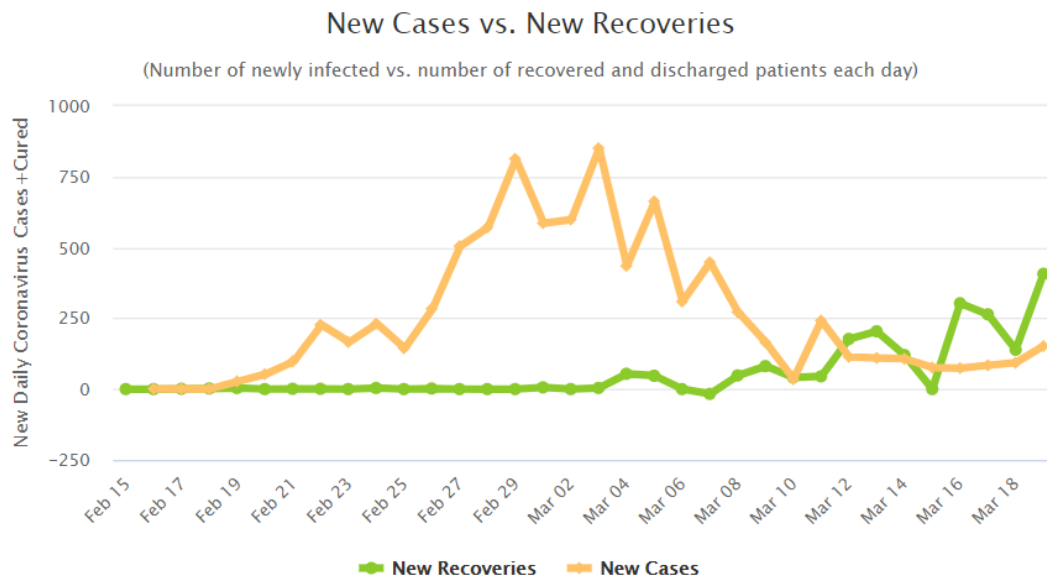
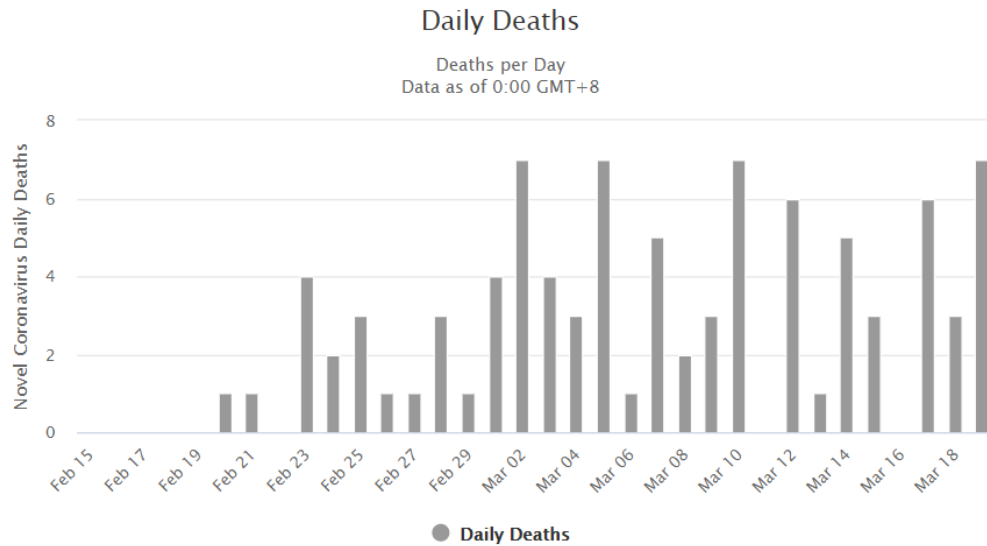
Knowing that they had rushed with the approvals, South Korea has often followed up with people who tested negative. And they were not reckless. Their test had validation as they used the WHO test.

They took other extreme steps. In times of crisis, East Asia gets intrusive.

The Korean government used cell phone and credit card data to make public, detailed information about the positive cases (without name of patients). Every detail and movement of the positive cases was made available. The government feels that without such detailed information, they could not have made an impression on peoples' mind and the spread would have been higher.

South Korea's results are not as impressive as that of China, but they are improving. And without the clear decisive action, the situation would have been far worse.





How did Turkey control it?

The test indicator of eleven per million for Turkey suggests that Turkey isn't doing enough testing. That may be because it was quick to close its borders, and despite tourism being a major economic segment, it stopped flights to and from many European countries. Though doubts remain about their reliability, Turkey began producing test kits in large numbers

very quickly. Though the jury is out on whether turkey has controlled the problem, it has not been wanting in taking decisive action.

So, what should Pakistan do? For one, Government must act as government:

This is the time to reinstate trust of government in the eyes of the people. Decisions taken in crisis shows the mettle of a leader. There is no running away from difficult choices. One takes them today, or the whole nation must live with the consequences of weak decision making.

A crisis also shows the strength or weakness of societies, effectiveness of their governing structure, social capital, and quality of the people. This is a major test for many countries.

Pakistan must take difficult decisions now. The steps are well known, as by now many countries have shown the path to success.

Pakistan must:

- Declare a national emergency and create a set up to execute top level decisions. This is especially needed as people are not well informed and we have weak social capital. Compliance and trust are weak in the society.
- It must earmark a large sum of money, in the Trillions, for their execution. We must stop all other expenses except the most needed. Stop subsidies to power sector and all others. This is the time for everyone to chip in.
- Announce immediate lockdown, except for essential services and supplies, such as health workers, police, sanitary staff, food and medicine delivery:
 - Impose curfew by calling the defence forces, decision on imposition and relaxation should be recommended by the health group (see below)
 - Commission all trucks and heavy vehicles to ensure essential supplies continue with minimum disruption. Give them special permits to ply
 - Run massive and blanket awareness drive, reach out far and wide to all parts of the country. Have welfare organizations assist the campaign.
 - Through the welfare group (see below) run large scale kitchens for the poor and daily workers. Double payments being made under the Ehsaas programme.

- As they are often on strike, declare health staff essential service, to be available 24/7
- Seal borders
- Form three working groups of eminent people in the respective field, with a track record of public service:
 - Health group of doctors, health experts, health industry members, and policy makers (politicians and civil servants) must decide and administer health policy to prevent, identify, test, isolate, and treat. They must be empowered to set up field testing, isolation, and treatment/ICU facilities all over the country. They will use government's existing structures to execute and monitor. They will have the power to induct help from anywhere in the country
 - Economic group comprising policy makers, industry, business, engineers, economists, to keep essential industry moving, minimize disruption, and plan for post-disruption recovery. It must make money available to other two groups and to itself. Must institute and execute policies to minimize disruption and ensure essential supplies,
 - Welfare group to include Shaukat Khanum, Edhi, Saylani, Chippa, Transparent Hands (crowdsourcing of funds), Aurat Foundation, Ansar Burney Trust. They may set up and manage food kitchens and help the distressed. They can also help government with other reach out functions, such as taking temperature in all public places, and spreading awareness about social distancing, prevention, and testing. GoP may fund the group.
- Import test kits, PCR machines, ventilators, thermometers, masks, sanitizers, and protective gears for health workers, immediately
- Set in motion effective policies to be executed through the above groups:
 - Policy 1 Prevent:
 - Lockdown
 - Policy 2 Identify:
 - Find out where is the virus. Have officials in lacs take temperature everywhere
 - Test those with fever. Testing is critical. It should be done widely and for free
 - Isolate positive cases by setting up massive isolation centres
 - Policy 3 Treatment
 - Ensure availability of medicine
 - Set up ICUs in large numbers for treatment of serious cases
 - Policy 4 Seek help from Turkey and China:
 - Turkey has controlled by sealing borders from day 1. They have offered 500,000 test kits to USA. Though their reliability is uncertain, but we cannot rule out Western bias. We must check for

ourselves and validate reliability of Turkish kits. Get a similar number of kits from them (i.e.500,00)

- Also, get test kits, PCR machines, Ventilators, and ICU units equipment, protective gears from China
- Get Chinese health workers, if available

This is a common challenge we must face. We are one country, one region and one world because the virus does not see political boundaries or political parties. There is no politics and no winners and losers. The whole country wins and loses together.