

The Pandemic -- Global and National Perspectives

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Introduction

The world will never be the same again. As we look back at 2020, we see a year that changed the world dramatically because of a small micro-organism, so small it cannot be seen by the naked eye. Millions have died and no country has been left untouched by the pandemic, although a few countries have fared better in managing the disease and preventing deaths. But they, too, have suffered economic downturns from the lockdowns and restrictions of movement across borders.

In this article, we present the background and perspectives of the current pandemic. Since no country can stand on its own, especially when pandemics occur, we describe the global situation¹ and, against this backdrop, look closer at what has happened and what we expect will happen in Bhutan.

A Global Perspective

In late 2019, China reported that an epidemic was unfolding in the city of Wuhan, caused by a novel virus -- a new strain of the corona virus family that subsequently was dubbed COVID-19 by the World Health Organisation (WHO). It was causing severe lung inflammation that frequently led to death, especially among the elderly.

The new epidemic spread rapidly across China and soon, cases occurred in other countries in Asia. The first cases outside China were confirmed in Thailand on January 13 and in Japan on January 15, 2020. The virus spread internationally with alarming speed, and on January 30, the Director General of WHO declared the outbreak “a Public Health Incidence of International Concern.” WHO declared COVID-19 a pandemic² on March 11 and, by the end of that month, the world saw more than half a million people infected, and nearly 30,000 deaths.

¹ <https://ourworldindata.org/coronavirus>

² A pandemic is an epidemic of an infectious disease that has spread across a large region, for instance multiple continents or worldwide, affecting a substantial number of people.

Since then, the virus has spread with unrelenting pace to virtually all countries in the world. The few countries which have escaped so far are island nations, especially in the Pacific, which managed to protect themselves through tight border controls, with mandatory quarantine upon arrival and testing for virus during the quarantine period. All continents have been affected and the number of deaths has been particularly high in USA, Brazil, and several countries in Western Europe.

By the end of March, 2021, there were 122.5 million cases and 2.70 million deaths worldwide, according to WHO.³

The War Against the Virus

This has happened despite stringent public health measures in most countries, like social distancing, quarantine systems, limited size of meetings and social events, and controlled movement within and between countries. Widespread testing of people, coupled with contact tracing, has been another intervention that has been successful in some countries.

However, the development of a vaccine advanced with unprecedented speed. By December, 2020, the first vaccine was approved for emergency use in the USA. This vaccine was developed by a small German biotech company, BioNTech, and production was initiated in partnership with pharma giant Pfizer. Soon after, the vaccine was cleared by a number of other national regulatory bodies around the world, and immunisation started at a low scale because of limitations in the quantities available.

Many other vaccines were under development and the first of these, developed by Oxford University and produced by Swedish/UK company AstraZeneca, has been approved for use in many countries. Notably, an agreement was made between AstraZeneca and the State Serum Institute of India, which will ensure a rapid scale-up of production. One major advantage with the AstraZeneca vaccine is that it is based on a well-known and much-tested methodology, so that long-term negative side effects seem unlikely. Another even greater advantage for countries with weak health systems is that it can be stored at normal refrigerator temperature.

³ https://covid19.who.int/?gclid=CjwKCAiA6aSABhApEiwA6Cbm_xtiIwsYfoPIXZTYCHr4f0z_faOHvhAhiBr3cs9sPgicMP2_ILWRlhoCvoQQAvD_BwE

It will thus fit logistically into existing national vaccine programmes that primarily target children and pregnant women. But it should also be noted that this vaccine is less efficacious than the other vaccines, and it is unknown how it will protect against mutant strains that are appearing in some countries. The vaccine is now being rolled out in many developing countries through the Covax facility.

Other vaccines are also licensed and deployed in a few countries, including the Sputnik-5 vaccine developed in Russia and two vaccines produced by Chinese companies, Sinovac and Sinopharm. As more vaccines are approved and distributed, the vaccine coverage will accelerate and the pandemic is expected to slow down.

There has been controversy over who gets the new vaccines first. Rich countries have invested heavily in companies that had the know-how to develop these new vaccines. In turn, they have negotiated deals with the companies to be provided first with the new vaccines. Many rich countries have hoarded vaccine allotments that are much bigger than what they need to vaccinate their populations, which has caused a major uproar internationally.

WHO's Director-General Dr. Tedros Adhanom Ghebreyesus has severely criticised rich countries for these unfair actions: "More than 39 million doses of vaccine have now been administered in at least 49 higher-income countries. Just 25 doses have been given in one lowest-income country. Not 25 million; not 25,000; just 25."

The WHO chief dubbed the "me-first approach" as self-defeating, saying the richer countries would themselves remain at risk if they ignored the needs of the world's poorest and most vulnerable people. These actions, he said, would ultimately prolong the pandemic and increase suffering.

What are the perspectives -- positive as well as negative -- of the impact of vaccines on the pandemic? Undoubtedly, as vaccine coverage picks up, transmission will hopefully be reduced. However, at the time of writing, vaccine availability is a severely limiting factor, because production capacity is unable to meet demand.

Vaccines alone, however, will not put an end to the pandemic. The virus will not go away. First of all, many people do not believe in vaccines and will refuse to be vaccinated. These “anti-vaxxers” constitute the biggest challenge for an effective suppression of COVID-19. In many countries, they may constitute up to 50% of the population (e.g., in the USA and France). In most European and Asian countries, this percentage is much lower -- ranging from 5% to 20%.

Secondly, a range of countries will be unable to reach the eligible population with their vaccine programmes. Thirdly, vaccines are not 100% efficacious. Since the best vaccines are estimated to be 90-95% efficacious, that still leaves up to 10% of those who are vaccinated not protected by vaccination. This means that in a country where 20% do not accept the vaccine and 10% do not develop antibodies after vaccination, there will be approximately 30% of the population who are susceptible to the virus. This is enough to sustain transmission, so outbreaks will continue to occur, albeit at a much lower level and with less severity than today.

Other big pandemics, such as the Spanish flu that ravaged the world a century ago, all followed the same course. They sputter for some time, then they die down after a few years. This may also happen to the current pandemic.

National Perspectives

Measures Taken to Control the Pandemic

Initially, as the pandemic spread through much of Asia, Bhutan sensibly avoided spread to the country. All possible preparations were initiated early, including implementing core public health measures to detect, test, trace, isolate and treat cases. Bhutan was quick to adopt a comprehensive, evidence-based tracing and testing regime soon after the novel coronavirus began spreading around the world. It put in place strict border controls and a three-week mandatory facility quarantine procedure for all returnees, to prevent importation of the virus and subsequent overloading of its healthcare system.

The co-ordinated response has been bolstered by Bhutan’s traditional communal values, in which all levels of society, including the royal family,

have acted in cohesion to observe social-distancing and support other response measures, and by the free universal healthcare system, a key aspect of the kingdom's Gross National Happiness philosophy.

The first case was a 76-year-old American male tourist who entered the country from Guwahati, India, together with his partner, and who fell sick after arrival on 5 March. Luckily, he was quickly diagnosed and admitted to a COVID-19 isolation ward at Jigme Dorji Wangchuck National Referral Hospital, where he received the required medical management. He was later evacuated to the United States on March 13, and has since recovered.

On March 25, 2020, a student who had returned from the United Kingdom was found to be positive for COVID-19, the third case in the country and the first Bhutanese.

Immediately after the first case was identified, Bhutan restricted entry of foreign tourists. An effective screening and testing system was established at all border points. Stricter border control was instituted, including round-the-clock surveillance of all formal and informal border crossing points, and door-to-door COVID-19 awareness and prevention campaigns.

Bhutan started mandatory hotel quarantine from March 14, 2020. Many hotel owners offered their facilities to isolate cases and contacts, and the Royal Government of Bhutan (RGoB) shouldered the cost, giving the hotels a modest income now that there were no more tourists.

His Majesty Jigme Khesar Namgyel Wangchuck addressed the nation three times, announcing that the borders were to be sealed off and that all Bhutanese living abroad could return home, assisted by evacuation flights. By June 23, Bhutan had conducted 29 special flights with Druk Air, and numerous road transports. A total of 3,288 persons were airlifted from 10 countries. On His Majesty's command, the Royal Bhutan Army constructed 1,000 temporary shelters for Bhutanese who had been living across the border and were returning.

Considering the immense impact on the economy and employment situation, His Majesty launched the Druk Gyalpo Relief *Kidu*, which is a large-scale national income support scheme for individuals whose source of livelihood has been affected by the pandemic. So far, the scheme has distributed Nu. 1.4 billion to 34,384 individuals.

Testing for Coronavirus

The Royal Centre for Disease Control (RCDC) has had the responsibility to conduct all testing for coronavirus. RCDC had limited capacity at the onset but they quickly managed to enhance the capacity both in terms of quality and of quantity. This included the Real Time Polymerase Chain Reaction (RT-PCR) test, and rapid tests which are 70-80% reliable and good for screening. At the peak of the outbreak in January 2021, RCDC performed more than 10,000 tests daily. Satellite testing facilities were also established in Mongar, Gelephu, Dewathang, and Phuntsholing to improve access to testing services.

The Phuntsholing Outbreak

On August 21, 2020, a cluster outbreak was detected through the surveillance system, which then led to a strict lockdown and other containment measures being enforced immediately. Following these findings, the government announced a mass COVID-19 testing programme in Phuntsholing town. Through the mass testing intervention, 27 new positive cases were identified and isolated.

The Thimphu, Paro Outbreak

The most recent local transmission was discovered on December 19, 2020 in Thimphu, when a 25-year-old woman was found positive after she went to a flu clinic to obtain clearance for travel. This revealed a major outbreak, with local transmission linked to multiple *dzongkhags*. Thimphu, Paro, Dagana (Lhamoidzinkingha), Bumthang, Haa, Punakha, Wangdue, and Trongsa all reported positive cases during the initial days of the outbreak which were epidemiological linked.

On December 20, 2020, Prime Minister DASHO Dr Lotay Tshering announced a complete lockdown of the capital city. Following quarantine measures and isolation, vigilant contact tracing, and a high level of communication to the communities, the outbreak was stopped altogether by January 28.

From December 20, 2020, to January 22, 2021, a total of 389 cases, of all age groups, were detected in Thimphu alone, 13 of them being community-based transmission, while the rest were close contacts of positive cases.

People of all age groups were infected but only a few required hospitalisation. The last case in this outbreak occurred on January 31 and the nation could now see light at the end of the tunnel. The total cases identified, both imported and locally transmitted, stood at 872 cases with 324 imported cases and 548 locally transmitted.

Only one death occurred (among 872 cases) throughout the entire period, the deceased being a man suffering from other diseases and, therefore, particularly vulnerable. No patients were put on ventilators and only six required oxygen support. Everyone who was infected was initially admitted in an isolation facility, which is essentially at par with a hospital.

These figures are much lower than what has been seen in European countries, where mortality rates among COVID-19 cases have been in the range of 0.8% to 2%. Improvements in medical treatment of severe COVID-19 cases across all countries have reduced both mortality and severity of the disease.

The successful fight against the virus could not have happened without the leadership of His Majesty the King and public solidarity, and the mobilisation of the armed forces, the health workforce, and of volunteers, notably the *De-suups*. Several thousand *De-suups* have assisted the Government in tracing and other important containment activities, especially during lock-down periods.

Vaccines -- the Light at the End of the Tunnel

Vaccination is obviously the most effective weapon against any infectious pandemic, not least the COVID-19. The light at the end of the tunnel is, therefore, closely linked to vaccination of people.

Bhutan is a member of COVAX⁴ facility, through which all countries will receive enough vaccines for 20 percent of their populations. However, the country received its first consignment of the Oxford-AstraZeneca vaccine manufactured at the Serum Institute of India on January 20. The 150,000 doses of vaccine were given by the government of India to Bhutan. Bhutan has been promised additional doses of the same vaccine from the government of India.

⁴ An initiative spearheaded by WHO to provide vaccines to low- and middle-income countries.

The government has planned a nationwide mass vaccination campaign after it receives the targeted 533,000 doses for all the eligible population in the country. Unlike many other countries, Bhutan decided to adopt the “Campaign” approach to inoculation. The mass vaccination campaign is expected to begin in late March after the *dana* (inauspicious month) which ends on March 13. The second dose is expected to be given between eight to 12 weeks later, which is likely to enhance protection more than the recommended three weeks interval between doses.

However, the virus may not be eliminated by vaccination alone. Firstly, there may continue to be some people, albeit a small percentage, who remain susceptible to the virus. Secondly, some people may refuse to get the vaccine for various reasons, though these “anti-vaxxers” traditionally are few in Bhutan, much less than in most other countries (In France, a poll has shown that up to 50% of the population may refuse the vaccine). In other countries, the vaccination programme will not be able to reach all, but the coverage in Bhutan is likely to be extremely high, given the coverage of the country’s achievements in its national immunisation programme.

So, the risk of COVID-19 outbreaks will remain but, as the global outbreak wanes and the vaccines take effect, these outbreaks will be small, erratic and less severe.

It is, therefore, important to continue to adhere to the proven preventive health measures, such as wearing face masks, practising physical distancing, and regularly washing hands.

Conclusions and Lessons Learned

Bhutan’s experience may offer several lessons for affluent nations.⁵

Firstly, leaders must be thoroughly engaged. Bhutan had trusted, smart, and hands-on direction from His Majesty, whose moral authority carries great weight. He pressed officials for detailed plans, covering every possible pandemic scenario, and made multiple trips to the frontlines, encouraging and inspiring health workers, volunteers, and others. The RGoB similarly quickly mobilised the solid national preparedness and response mechanism and provided strong leadership throughout.

⁵ The following section has been adapted from Madeline Drexler: <https://www.theatlantic.com/international/archive/2021/02/coronavirus-pandemic-bhutan/617976/>

Secondly, investing in preparedness, Bhutan set up a health emergency operations centre in 2018. In 2019, the country upgraded its Royal Centre for Disease Control lab, equipping it not only to handle new and deadly viruses on the horizon, but also SARS-CoV-2. A comprehensive emergency preparedness plan was in place, which only needed adjustments for the specific situation to be rolled out. Most presciently, in November 2019, the WHO and Bhutan's Health Ministry staged a simulation at the international airport in Paro.

Thirdly, act fast and buy time. Bhutan did just that. The system of community-based primary care had sowed the concept of prevention, and its free universal health care and testing meant that logistics and supply chains were already in place.

Fourthly, draw on existing strengths. When Bhutan added five more PCR machines to its testing stock -- up from just one -- it needed people to collect samples from the field and operate the devices. So, it shifted technicians from livestock-health and food-safety programmes, and trained university students.

Finally, make it possible for people to actually follow public-health guidance by providing economic and social support to those who need to quarantine or isolate.

The key to an effective response to this pandemic -- and to the next -- is investing in building a resilient health system and, more importantly, building the competency and capacity of our health workforce to be prepared to implement core public health measures to detect, test, trace, isolate and treat cases.

The call to the people of Bhutan remains the same:

**Together We Can!
Stay Informed, Stay Safe!**