

## Perspective

# Control of travel-related COVID-19 in Bhutan

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## Introduction

Amidst the COVID-19 pandemic, landlocked developing countries (LLDCs) face the dual challenges of combating the disease and ensuring uninterrupted flow of essential commodities and medical supplies across its borders. In March 2020, the United Nations urged neighbours of LLDCs to support these nations in achieving their targets under the Vienna Programme of Action for LLDCs.<sup>1</sup>

Bhutan is a landlocked country in the eastern Himalayas with a population of 0.76 million. It shares its border spanning ~700 km with India on one side and 500 km of snow-covered mountains with China on the other side. There are numerous points of entry by land along the porous southern border towns of Samtse, Phuentshogling, Gelegphu and Samdrup Jongkhar (Figure 1). The Paro International Airport is the only point of entry by air.

On 13 January 2020, the first case of COVID-19 outside China was reported in Thailand. Other countries with direct flight routes to Bhutan (Supplementary Figure 1 is available at *JTM* online) reported their first COVID-19 cases around the same time: India, Nepal and Singapore in January 2020 and Bangladesh in March 2020. As the second wave of COVID-19 spreads across the Indian subcontinent, with most cases linked to the Delta variant (B.1.617.2), neighbouring Bangladesh and Nepal struggle with similar surge in cases.<sup>2</sup> With Bhutan's close interaction with its neighbouring countries and cross border travel of people and goods, travel-related import of COVID-19 is a real threat. As of 14 August 2021, there were 2570 COVID-19 cases reported in Bhutan of which 649 (25.25%) were imported.

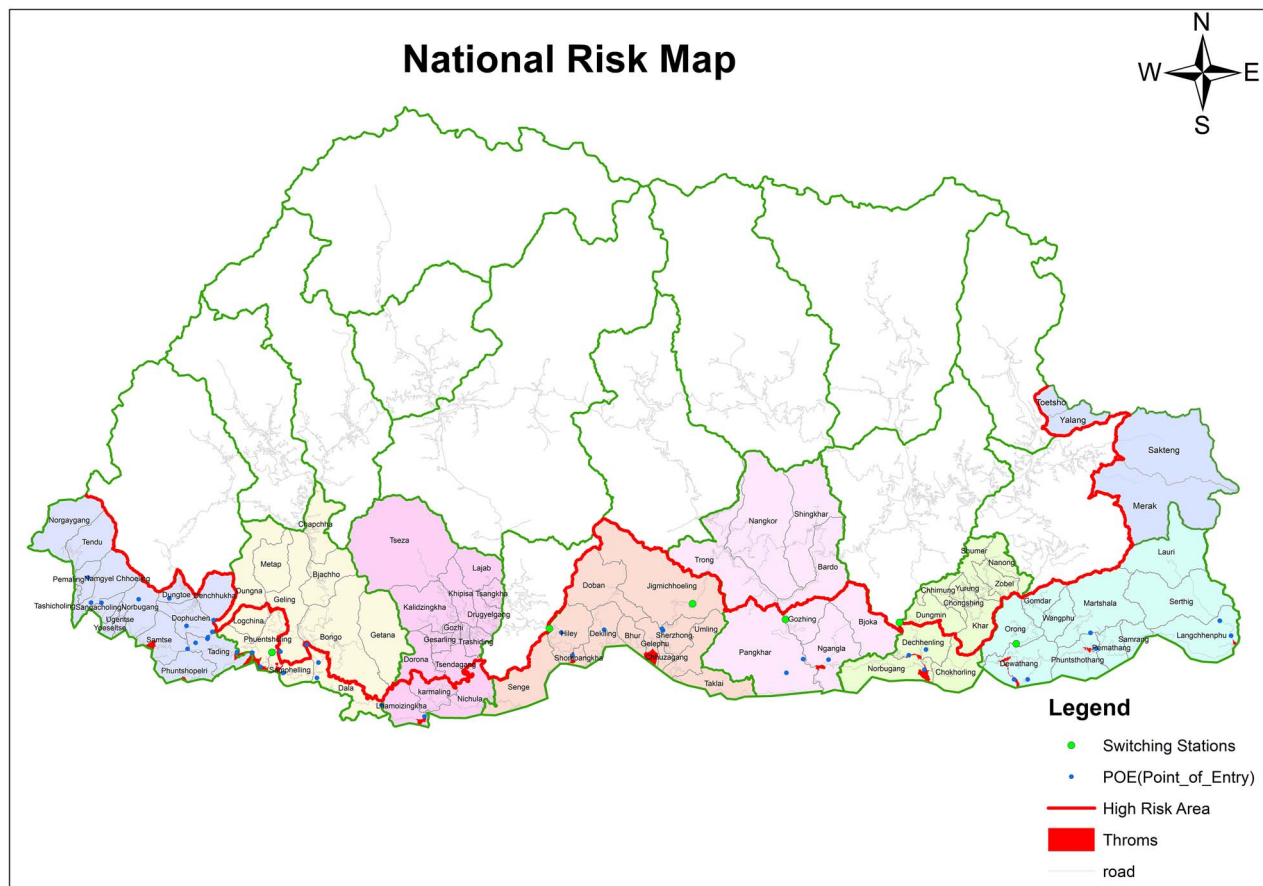
## International travel restricted

The first case of COVID-19 in Bhutan was detected on 5 March 2020 in an American tourist who had travelled from the USA

through Europe and India before arriving in Bhutan by air.<sup>3</sup> The country sealed its international borders on 22 March 2020—all land and air routes were closed for non-emergency travel. Several checks and containment protocols were implemented at border points of entry and at the Paro International Airport. All incoming travelers entering Bhutan from outside the country need to undergo mandatory 21-day facility quarantine in hotels. Most of these incoming travelers are Bhutanese living abroad being repatriated, or skilled foreign workers travelling after obtaining approval on a case-by-case basis.

Prior to the closure of its international borders, tourism was the second highest source of revenue for Bhutan with 315 599 visitors in 2019. Bhutan has adopted a policy of 'High value, Low volume' tourism. All incoming international tourists have to route their visits through registered Bhutanese tour operators and pay a minimum daily package rate (MDPR) of USD 200–250 per night during their stay in the country; the MDPR is inclusive of a Sustainable Development Fee paid to the state and tour guide fees, accommodation, meals and other logistical costs within the country. While nationals of Bangladesh, India and Nepal (so called 'regional tourists') are exempt from paying the MDPR, they too have to pay a Sustainable Development Fee of 1200 *Ngultrums* (USD 16) per night in addition to charges for accommodation, meals, transport and other costs. All visitors are required to obtain a visa (international tourists) or a travel permit (regional tourists) before arriving in the country. Tourism was completely suspended from March 2020 with all existing bookings cancelled and no new bookings for tourists allowed.

Tourism is a priority economic sector in Bhutan. With the suspension of tourism in March 2020, the King helped evacuate all remaining tourists in the country. The King also played an instrumental role in the care of the American tourist (first COVID-19 patient) while he was in Bhutan and helped facilitate his



**Figure 1.** Map of Bhutan showing demarcation of high-risk zones (red line) and points of entry along the southern border (Source: Ministry of Health, Royal Government of Bhutan, 25 June 2021. Map not authoritative on its international boundary)

evacuation while on mechanical ventilation to the United States (patient survived).<sup>4</sup> The Ministry of Health and the National COVID-19 Task Force issued two separate notifications in September 2020 and December 2020, respectively permitting visitors to enter Bhutan with a COVID-19 negative certificate and the need to undergo 21-day quarantine and testing. On 9 August 2021, the first tourist since the closure of borders arrived in Bhutan by air—a 70-year-old solo traveller from the USA. All tourists who visit the country need to produce a COVID-19 reverse transcriptase polymerase chain reaction (RT-PCR) test result done not earlier than 72-h before arriving in the country, undergo mandatory facility quarantine for 21 days and get tested for COVID-19 using RT-PCR before exiting quarantine facility.<sup>5</sup>

### Paro international airport

The only international airport in the country at Paro (50 km from the capital city, Thimphu) operates flights to Bangladesh, India, Nepal, Singapore and Thailand (Supplementary Figure 1 is available at *JTM* online). The airport introduced containment protocols for all incoming travelers. After disembarkation, every passenger is screened with temperature checks and are escorted by *De Suung* (Guardians of Peace) volunteers to quarantine facility. Dedicated buses, with compartmentalized driver's seat as barrier to avoid contact, shuttle them between the quarantine

centre and airport. All luggage at the airport is disinfected and physical distance between passengers maintained during immigration and other formalities. COVID-19 testing using RT-PCR is done on Days 7, 14 and 21 of their 21-day quarantine before being released on Day 22 if all tests are negative. Those who test positive are transported to the nearest COVID-19 treatment centre. All personnel working at the airport are housed within the airport premises during their 3-week-long work shift without any contact with the community. This is followed by 2 weeks quarantine—1-week in facility (hotel), followed by 1-week home quarantine.

### Land border

Before the pandemic, the southern border towns were major trading hubs for the import-driven economy of Bhutan. With the borders closed for routine travel and exchange, special arrangements were introduced along the major points of entry—Gelephu, Phuentshogling, Samdrup Jongkhar and Samtse—to facilitate uninterrupted trade. Mini dry ports (MDPs) were set up along the borders with containment protocols. Goods are trans-shipped from incoming Indian to Bhutanese lorries by designated loaders who board within the facility premises with no contact allowed with others. While at the MDP, the lorry drivers are not allowed to mingle with the loaders. All goods are disinfected and

quarantined for 24 h at the MDP. All incoming travelers arriving by land (skilled Indian labourers and Bhutanese being repatriated from India) undergo similar procedure as those arriving by air—they too undergo 21-day facility quarantine and testing for COVID-19 using RT-PCR.

### Southern buffer zone and in-country travel

The districts along the international border with India are designated as ‘high-risk’ areas (Figure 1). Residents of high risk areas need to follow special travel arrangements for in-country travel to ‘low-risk’ areas, namely mandatory seven-day facility quarantine and COVID-19 RT-PCR testing at the place of origin.<sup>6</sup> Although ‘emergency travelers’ (as determined by the local COVID-19 Task Force on a case-by-case basis; mostly upon death of immediate family) could earlier travel without quarantine after testing for COVID-19, this provision was discontinued from May 2021. From July 2021, the National COVID-19 Task Force decided to further categorize high-risk areas within the country into red, yellow and green zones in decreasing order of outbreak severity (red for areas with active outbreak, yellow for areas with outbreak under control, and green for areas without outbreak). Accordingly, the quarantine duration for these new categories was increased: 14 days for red, 10 days for yellow and 7 days for green zones. The National COVID-19 Task Force periodically re-assesses the outbreak status and assigns the corresponding zone to a given area.

All inter-district travelers need to register on the Check Post Management System (CPMS), an online portal of the Royal Bhutan Police, with details of vehicle, driver and passengers before travelling. Travelers are checked at the district entry-exit checkpoints, and are registered on the CPMS immediately if found to be unregistered, before onward travel is permitted. The CPMS data are shared with the Ministry of Health and used for contact tracing and testing. During the first national lock down in August–September 2020, people who had recently travelled to the bordering town of Phuentsholing (where local transmission was detected) were traced, contacted and tested using CPMS data.

Goods transported from high-risk to low-risk areas are transhipped at the border of the high-risk area demarcation, called ‘switching station’ (Figure 1). Goods are transferred by dedicated workers at these stations onto vehicles from low-risk areas. If urgent transport of goods is required, vehicles from low-risk areas may enter and exit high-risk areas with *De Suung* escort to ensure no interaction between the driver and local residents of high-risk zones; overnight halts are not permitted. The trans-shipment modality has been attributed to rising prices of commodities due to need for two vehicles and labour charges for loading and unloading.<sup>7</sup>

As a part of enhanced active surveillance, health workers, frontline workers on border duty, drivers, shopkeepers and other ‘high-risk groups’ in the high-risk areas are tested fortnightly for COVID-19. All throughout the country, in order to maintain physical distancing in public transport, taxis and public buses operate at half capacity. The use of *Druk Trace* mobile application is actively encouraged with taxis and buses displaying QR codes for scanning when passengers embark on the vehicle. Data

from the *Druk Trace* application have helped in contact tracing of COVID-19 exposures.<sup>8</sup>

Bhutan saw a surge in cases starting April 2021 ( $n = 1697$ , 66% of all cases as of 14 August 2021). The Ministry of Health confirmed that 87% of these new cases were caused by the Delta variant. However, majority of these cases were confined to the border districts in the ‘high risk’ areas ( $n = 1204$ , 70.95%) and only local lockdowns had to be implemented. In fact, no cases linked to the outbreak in the southern border regions were detected outside of the ‘high risk’ areas.

### Challenges

The tourism sector, with turnover of USD 225 million in 2019 and the second highest source of revenue for the country, has suffered immensely with more than 50 000 job losses.<sup>9</sup> To allow cross country travel and trade, Bhutan signed its maiden air travel bubble agreement with India on 18 September 2020. Under this air travel bubble arrangement, Drukair—Bhutan’s national airline—operated a total of 166 relief flights to various cities in India (17 to Kolkata, 41 to Delhi and 10 to Bagdogra) between March 2020 and July 2021. Majority of these flights were to facilitate repatriation of Bhutanese nationals residing abroad and for Bhutanese patients referred to India for medical treatment.

As of May 2021, the government had spent 610 million *Ngultrums* (USD 8.2 million) on quarantine facilities for both incoming and high-risk travelers.<sup>10</sup> With a 14% drop in domestic revenue and the economy contracting by 7% in 2020 due to the pandemic, sustaining the current trend of state-sponsored mandatory quarantine is a challenge.

Bhutan continues to face shortage of skilled labour in some critical sectors necessitating import of labour from India; many of them test positive for COVID-19 during the 21-day facility quarantine and are treated in nearby local hospitals within Bhutan. Employers who are importing the workers need to cover all expenses including cost of quarantine, food, testing and treatment if they test positive for COVID-19.

While the high-risk areas have buffered the rest of the country from direct exposure to imported COVID-19 cases, this has had major impact on the lives of the people residing in these areas. For instance, except for life-threatening conditions, all other referral patients from high-risk areas to the national referral hospital in the capital city (which is a low-risk area) need to undergo seven-day facility quarantine. This has ‘limited’ their access to specialist services offered by the national referral hospital.<sup>6</sup>

One major concern that can lead to potential outbreaks and spread of infection is when there are breaches in the standard operating protocol at the points of entries and at quarantine facilities. There have been reports of protocol breach in both MDP and quarantine facilities causing local transmissions. However, to make the lives of people easier, the government and COVID-19 Task Forces continue to revise existing protocols and monitor for strict compliance.

The southern border is a long stretch of Himalayan foothills with hundreds of newly established border outposts and points of entry which are patrolled by the army, police, *De Suung* volunteers, foresters and village volunteers. However,

due to the extensive size of the border, illegal border crossing for smuggling of tobacco, trade and travel have been documented.

### Public acceptance of new travel norms

People have poured their frustration on social media regarding the hassle of staying in quarantine facilities, tests and difficulty in meeting their families living in other parts of the country. Spouses have been forced to endure prolonged separation with one partner living in high-risk area. Parents from low-risk areas whose children are studying in high-risk areas have not seen their children for months. The government has been under increasing pressure to waive the 7-day quarantine requirement especially after administering COVID-19 vaccines.<sup>11</sup>

Other modalities to maintain the buffer could be considered: home-quarantine with strict monitoring by *De Suung* volunteers could forgo the expenses incurred on hotel charges and food while also providing psychological comfort to those quarantined.

### Vaccination and travel passport

With vaccination picking up globally, the concept of ‘vaccine passport’ is gaining popularity. As of August 2021, Bhutan only ‘encourages’ but does not mandate visitors to be vaccinated. Bhutan vaccinated more than 90% of its eligible population with the first dose using Covishield vaccine (the Oxford-AstraZeneca vaccine manufactured in India) in March–April 2021.<sup>12</sup> The government rolled out the second dose of vaccine with a heterologous vaccination strategy using Moderna vaccine in July 2021; what changes this will bring to the existing in-country travel protocol remains unknown. As of 14 August 2021, the National COVID-19 Task Force has not announced any changes to the existing travel restrictions.

### Conclusion

Effective monitoring of cross-border and in-country travels are important measures to prevent spread of COVID-19. Stringent border control with containment protocol has prevented direct entry and widespread transmission of COVID-19 in Bhutan. However, with pandemic-fatigue setting in, people’s compliance to and enforcement of standard protocols in the field needs to be monitored. Other LLDCs could adopt similar border-control policies to prevent entry of and mitigate the impact of COVID-19.

### Supplementary data

Supplementary data are available at *JTM* online.

### Author contributions

All authors contributed to the conception of the paper. S.T.T. and T.D. drafted the manuscript. All authors critically reviewed and approved the manuscript.

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