



COVID-19 and Nepalese Tourism

Baseline Assessment
Report

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List of abbreviations

AAG	American Association of Geographers
ACAPS	Assessment Capabilities Project
C2M2	Cities' COVID-19 Mitigation Mapping
GFDRR	Global Facility for Disaster Risk Reduction
GoN	Government of Nepal
HAN	Hotel Association Nepal
ILO	International Labor Organization
IVA	International Visitors Arrival
KLL	Kathmandu Living Labs
NMA	Nepal Mountaineering Association
NTB	Nepal Tourism Board
OECD	Organisation for Economic Co-operation and Development
OpenDRI	Open Data for Resilience Initiative
PATA	Pacific Asia Travel Association
TAAN	Trekking Agencies' Association of Nepal
TRTF	Tourism Revival Task Force
TTDC	Thamel Tourism Development Committee
UNDP	United Nations Development Programme
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNICEF	United Nations Children's Education Fund
UNWTO	United Nations World Tourism Organization
VN2020	Visit Nepal 2020
WHO	World Health Organization
WTTC	World Travel and Tourism Council

I. Introduction

“The entire hospitality industry is in deep depression,” says Shreejana Rana, president of the Hotel Association of Nepal and executive director of Hotel Annapurna, adding that many new hotels have huge loan exposure as well as having to pay operating costs of empty businesses [Source: The Rising Nepal]

“I have been trying to sell my business, but there are no buyers,” said Suresh Khadka, who owns a restaurant in Sundhara. “There are over 100 hotels and restaurants in Sundhara and they are all empty for the past three months. People do not come to stay in hotels and eat in restaurants due to the fear of coronavirus,” said Khadka, who is originally from Dailekh. Khadka is planning to sell his business and return to his hometown. “Once I have sold my business, I will use the money to pay the three month’s rent to my landlord and head back to my village where I plan to start farming,” he said. [Source: The Kathmandu Post]

The situation is graver than what is being reported in the media, said the entrepreneurs. “About 1.2 million workers are directly or indirectly affected by the business shutdown. Total jobs affected directly are about 300,000,” said Basanta Raj Mishra, Chairman of Nepal Association of Tour Operators and Chairman of Nepal PATA Chapter. [Source: The Rising Nepal Daily]

The purpose of this report

What started as a single case of COVID-19 in the Chinese province of Wuhan quickly escalated into a global crisis. The WHO declared it as a pandemic on 11 March 2020. This pandemic has had direct and obvious effects on the health of millions of people around the world. However, its effects are not limited to those who fall sick. Even the lives of the people who have not contracted the virus at all have been affected by this crisis. For example, millions of children are out of school, hundreds and thousands of businesses have been shut down, millions in the global workforce have lost their means of livelihood. Such effects, which are not caused directly by the virus, but due to the actions taken by governments and citizens to mitigate the effects of the virus, are called the second order impacts of COVID-19 [UNICEF 2020].

This report provides details of such second order effects on the tourism sector of Nepal. Tourism is an economic lifeline of the country. Nearly 6.7% of the national GDP is

contributed by this sector alone. It provides employment to about seven out of every hundred employed people. For every new six tourists, one new person gets a job in Nepal. Starting from 24 March 2020, tourism (both international and domestic) came to an almost standstill, affecting millions of workers and many more millions who are dependent on them.

[[A UNDP report](#)] of May 26 estimates that such stand-still tourism, coupled with other restrictions such as lockdowns and shutdowns imposed by the government, has affected the livelihoods of millions of people who are directly or indirectly involved in tourism. This report is an attempt to document this impact, with information from various sources, and provide a holistic picture of the second order impacts of COVID-19 on the tourism industry of Nepal.

Who is this report for?

This report is useful for anyone who seeks to understand the general impact of COVID-19 on the Nepalese tourism. As such, it sheds light on why tourism is such an important life line of the Nepalese economy, how COVID-19 has affected the businesses and people dependent on tourism, what relief and recovery efforts have been put into effect and how these have further impacted the sector.

The purpose of this project

This report has been prepared as a part of C2M2 (Cities' COVID-19 Mitigation Mapping) project. C2M2 is a project led by the American Association of Geographers (AAG). This project aims to map the second order impacts of COVID-19 in twelve cities spread across Asia, Africa and South America.

The main objectives of C2M2 are to:

- understand second order impacts in these cities;
- solicit, collect, curate and avail relevant datasets;
- develop and publicly share useful analyses and visualizations that stakeholders can use to mitigate the effects of COVID-19.

In each city, a city partner organization implements this project. C2M2 Kathmandu is implemented by Kathmandu Living Labs (KLL). KLL is a leading civic-tech organization that has its roots in creating open maps and data products. In 2013, KLL was the implementing partner for a World Bank GFDRR (Global Facility for Disaster Risk Reduction)'s OpenDRI (Open Data for Resilience Initiative) project. In this project, KLL surveyed about 3,000 buildings that housed schools and health facilities inside Kathmandu valley. It also made this dataset publicly available through OpenStreetMap. In addition, following the 7.8 Mw Gorkha earthquake in 2015, KLL helped the Government of Nepal (GoN) by building and implementing an end-to-end ICT (Information and Communication Technology) solution to collect, manage and process over 10 terabytes of data spread across 32 earthquake-affected districts in Nepal. The resultant dataset is hosted on the National Planning Commission's [website](#). To know more about KLL's work, visit kathmandulivinglabs.org

The C2M2 project is supported by the U.S. Department of State, and managed by the American Association of Geographers. Colorado State University is the research partner. KLL also serves as the regional hub for Asia.

II. Methodology

This report sources its data from both primary and secondary sources. Primary sources include the semi-structured interviews conducted by KLL's research team. We interviewed a number of key informants for this report. Due to the COVID situation, we conducted most of these interviews online. Those among the interviewed are the people who have been involved in the tourism sector at various levels and sub-sectors within Nepalese tourism. We interviewed business owners, employees, heads of associations, tour guides/trekking guides, other tourism professionals, etc. <see in appendix 1>

Our secondary sources comprise a wide range of printed and online resources. We used materials from trusted national dailies, newspapers and magazines to get the latest information on the development of COVID-19 in the country. <add table> We referred to the reports and journals published both within and outside the country.

The Government of Nepal, Department of Tourism, Nepal Tourism Board, Tourism Revival Task Force are our chief sources of information within the country. Foreign sources of information mostly comprise of World Travel and Tourism Council (WTTC), International Growth Center (directed by London School of Economics, and University of Oxford), United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), International Labor Organization (ILO), Pacific Asia Travel Association (PATA) CRC, and Global Health Security Index.

For the COVID-19 impact on Nepal tourism timeline, several national and international sources have been collated. The timeline begins with a general development and COVID situation around the world in its early days, and then progressively focuses on the impact on the Nepalese tourism.

To assess the impact of COVID-19, this report leans on ACAPS' COVID assessment framework. The framework has four primary components – the crisis, pre-outbreak context, impact (on four pillars of health, living conditions and essential services; social cohesion and protection; humanitarian and development operations); and changed humanitarian outcomes <see appendix 3>. This report mainly uses the first three components of this framework. In doing so, this report views not only COVID-19 as the crisis, but also the intervening measures taken to mitigate its effects as the source of other forms of crises. For the pre-outbreak context, this report illustrates an overview of the Nepalese Tourism in pre-COVID times, and why tourism is an important sector for Nepal. Finally, the report sheds light on the impact of COVID-19 on the Nepalese tourism. It illustrates the development and

deepening impact of the disease in a graphical timeline, as well as lays down the compiled narratives developed from our primary and secondary data sources.

III. Nepalese Tourism in pre-COVID times

Tourism is Nepal's one of the largest industries. It is also the largest earner of foreign exchange earnings [[World Atlas](#)]. Despite being a predominantly agricultural country in terms of the number of people involved in the profession, tourism provides an essential source of livelihood to millions of people through direct or indirect means. According to the [[Economic Impact Report 2020 by WTTC](#)], nearly 7 out of 100 people in Nepal are employed by tourism alone. Tourism also generates 2.1% of Nepal's direct employment.

Nepal received 1.2 million (excluding Indian visitors who travel by-land) International Visitors Arrival (IVA) in 2019. The average length of stay of each visitor in 2019 was 12.8 days. The national tourism promotion campaign Visit Nepal 2020 was in full swing with a target to achieve 2 million IVAs in 2020. More than 30 International Airlines were connecting 40+ destinations from 16 different countries at the time. India, China, the United States of America, Sri Lanka, and the United Kingdom were the top five source markets.

Tourism is an important sector for Nepal. As per the World Travel and Tourism Council (WTTC), the total contribution of the Travel and Tourism sector in Nepal's GDP is 6.7%; contribution to employment is 1,034,000 jobs (6.9% of total employment) and it contributes 30.8% annually to the country's export earnings. The average spending per tourist per day was USD 48.00 in 2019.

Importance of Tourism in the Nepalese economy

According to the [[Economic Impact Report 2020 by WTTC](#)], in the year 2019, tourism alone contributed to 6.9% of Nepal's national GDP. This is equivalent to NPR. 231 billion (USD 2,051.4 million). To put this in perspective, Bhutan's national GDP is USD 2530 million [<https://www.worldometers.info/gdp/gdp-by-country/>].

Tourism also supported 1.05 million jobs directly [[Kathmandu Post](#), May 2019]. This is a conservative estimate, however. The [[ILO report](#)] estimates that as high as 80% of the employed population may be informal in the region. To that effect, some estimates peg the number of people involved in tourism (directly and indirectly) to be in excess of 2 million. The [[Annual Household Survey 2015/16](#)] shows that the average household size is 4.6 people per family. At that estimate, the 2 million people involved in tourism must be a source of livelihood to around 9.2 million people.

Over a year, these tourists spend about USD 724337000. [[MDAC Meeting Summary, Nepal Tourism Facts 2019](#)]. This is one of the vital sources of livelihood for millions of tourism workers and their families.

The tourism sector also generated 240.7 billion in revenues in 2018 [[Kathmandu Post](#)]. In addition, tourism attracts capital investment from domestic and foreign sources. In 2019, the travel and tourism sector is estimated to have attracted an investment of NPR. 27.5 billion.

At these figures, tourism is a vital lifeline for the Nepalese economy, and it is an important source of livelihood for a sizable population. In fact [[The Nepal Development Update](#)] by the World Bank in July 2020 kept it in the priority sector (along with agriculture), given its significance in generating and providing employment and good security.

IV. Visit Nepal 2020

On Jan 1 2020, Visit Nepal 2020 (VN2020) was officially launched in an inauguration ceremony at Nepal's national stadium. This also marked the official beginning of 2020-2030 as the tourism decade. VN2020's target was to attract 2 million international tourists this year (an ambitious target to almost double the 2019's actual number of 1.19 million). At an estimated average expenditure of USD 75 per day, this campaign's annual target was to generate USD 2 billion. Comparatively, 2018 had welcomed 1.17 million tourists, and 2019 saw 1.19 tourists visit Nepal [[Nepal Tourism Statistics 2019](#)].

The other main goal of this campaign was to augment the economic opportunities, and increase employment in the tourism sector. It targeted to provide employment to 1 million people in the country [[Tourism Vision 2020](#)].

The campaign was aimed to position Nepal as a unique experiential life time value destination highlighting the vivid cultural and natural diversity. The rigid image as an adventure destination was limiting the interest of other visitors. And VN2020 was aimed at increasing the number of visitors so that Nepal can increase the benefit from tourism.

VN2020 was announced in 2018. Until its eventual cancellation in April 2020, many tourism businesses had made additional investments in anticipation of increased tourists. For example, interactions with the members of Nepal Tourist Vehicle Association (NTVA) revealed that they had added vehicles to their fleets. In other sectors, hotels and lodges had increased their rooms and other infrastructures. At the moment, the majority of such investments are yet to see sizable returns, if any.

“The entire hospitality industry is in deep depression,” says Shreejana Rana, president of the Hotel Association of Nepal and executive director of Hotel Annapurna, adding that many new hotels have huge loan exposure as well as having to pay operating costs of empty businesses (Source: [Nepali Times](#))

V. COVID-19 Situation in Nepal

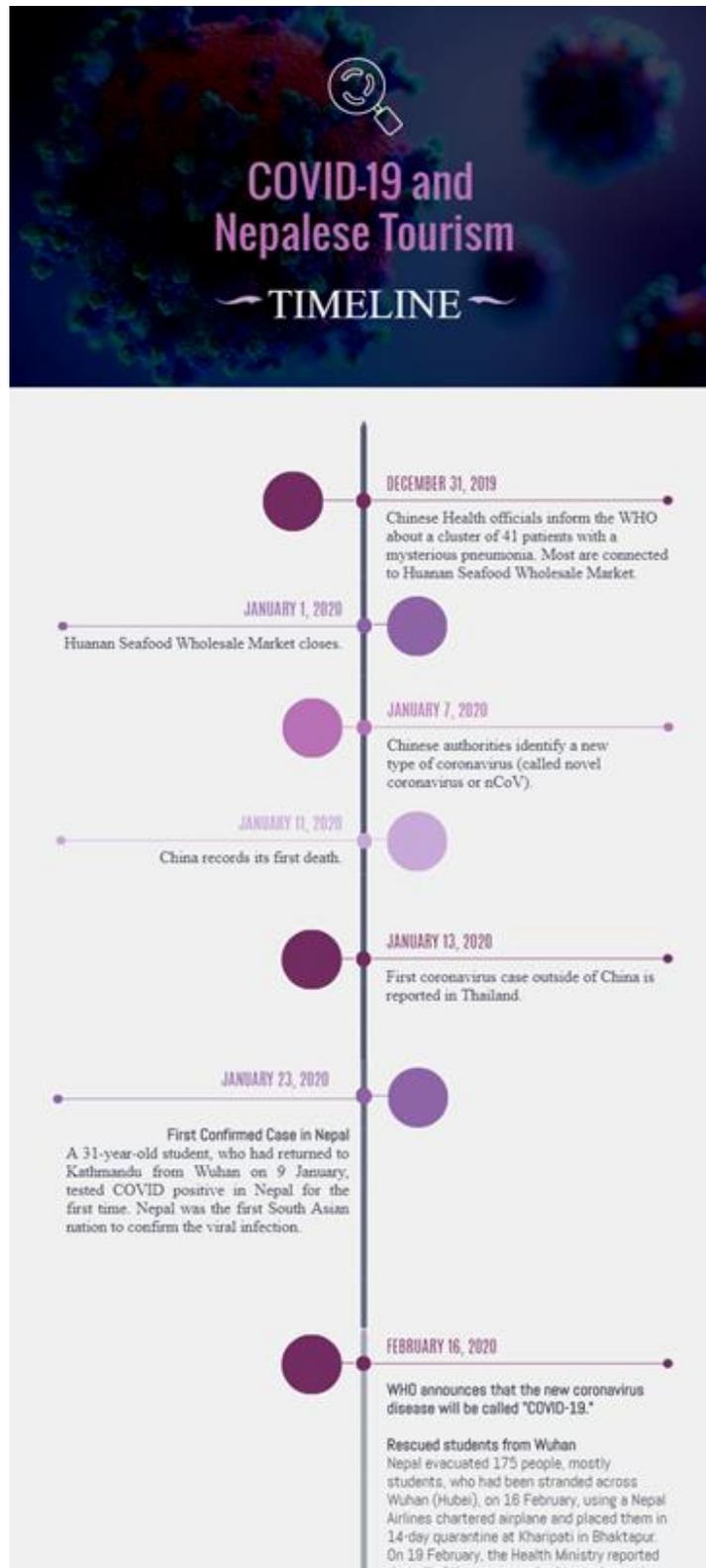
COVID and Tourism - A timeline:

Nepal was the first South Asian country to report a confirmed COVID-19 case. On January 23, a 31-year-old student who had returned to Kathmandu on 9 January tested COVID-positive.

On March 2, the government issued a travel advisory against all non-essential travel to the hardest hit countries. On March 10, Nepal's government suspended its visa-on-arrival service for five countries. Beginning from March 22, all international flights were cancelled. Visit Nepal 2020 was officially suspended. Nepal's international tourism came to a grinding halt.

On March 11, WHO had declared COVID-19 as a pandemic. On March 24, Nepal entered its first lockdown.

Click [here](#) to view the full timeline [visual].



Current Situation

In a preliminary study regarding how the situation may unfold in a year's time, these three scenarios had been laid down:

- Scenario 1: International tourist arrivals start to recover in July, and strengthen progressively in the second half of the year, but at a slower rate than previously foreseen (-60%);
- Scenario 2: International tourist arrivals start to recover in September, and then strengthen progressively in the final quarter of the year, but at a slower rate than previously foreseen (-75%); and
- Scenario 3: International tourist arrivals start to recover in December, based on limited recovery in international tourism before the end of the year (-80%) (OECD, 2020; UNWTO, 2020b).

At the time of writing this report, i.e December 2020, it is now clear that the situation is worse than all three scenarios discussed above. It is highly unlikely that international tourism will recover any time before fall 2021, according to the experts. Many of these experts also consequently believe that Nepal should work to actively encourage domestic tourism instead. However, businesses with significant investments and that rely on international tourists (such as the members of HAN) opine that domestic tourism alone cannot sustain their business.

Meanwhile, several actors including employees, guides, porters, etc. have organized protests against stakeholders like the Nepal Tourism Board and the Ministry of Culture, Tourism and Civil Aviation. Their chief demands include resuming tourism so that they can get back to work, and get their livelihoods back on track.

Those who understand the plights of these people understand the rationale behind such actions. Mira Acharya, Director of the Mountaineering Section of the Nepal Tourism Department mentions that the mountaineering guides and trekking guides have been out of 'effective employment' since spring 2019, not spring 2020. Trekking is a seasonal activity, and many of these guides earn a major chunk of their annual income during the spring season. With the tourist numbers starting to dwindle in early 2020, and the country entering into a lockdown towards the end of March 2020, these people last had a proper earning back in spring 2019. In effect, they have not been able to have a full income for almost 2 years now.

After tremendous pressure from the private sector, the government resumed domestic flights on September 21. After being grounded for six months, eight out of nine airlines started domestic flights, albeit operating only a quarter of their usual flight frequencies.

International flights had resumed starting from September 1, except to three destinations (New Delhi, Mumbai and Bangalore). However, this restriction is also to be lifted with the first flight to New Delhi scheduled to fly on December 17 under the 'Air Bubble Model' [[The Himalayan Times](#)]



Photo courtesy: [Nepali Times](#)

VI. Data Assessment and Gap Analysis

A major output of our desk research and the in-person interactions with the tourism stakeholders is a separate report titled 'Tourism Data in Nepal'. The report is broadly divided into three parts. The **Assessment of Available Tourism Data** section catalogs and analyses the existing COVID-19 and tourism-related data along several dimensions such as the data source, data granularity, sectoral focus, collection method, etc.

The **Identification of Data Needs and Gaps** section attempts to identify different stakeholders' data needs which will help them understand the effects of, and devise the mitigation measures for, COVID-19 on their businesses and the livelihoods of the people associated with them. . The focus of this exercise was to collaborate with stakeholders from the tourism industry to identify priority areas where data can support their needs with respect to advocacy and decision-making for tourism revival. The **Technology Readiness Assessment** section describes the technological tools that we plan to use in order to collect, curate, analyze and disseminate the data associated with this project.

Major findings from the report have made their way into this Baseline Assessment Report.

VII. Impact on the Nepalese Tourism

This report uses a number of qualitative and quantitative indicators to assess the impact of COVID-19 on the Nepalese tourism sector. These impacts can be further divided into two categories – actual and assumed. The latter is necessary because the official statistics for 2020 are not available at the time of writing this report. These indicators have been compiled from different sources including the World Tourism and Trade Council (WTTC), and ACAPS' COVID-19 [Secondary Impacts Indicator List](#).

Indicators	Description	Remarks
Number of tourist arrivals	The total number of tourists that visit Nepal	
Annual revenue from tourists	Total revenue earned in the tourism sector	
Contribution to GDP	The percentage of GDP that is contributed by tourism (at constant price)	
Number of businesses closed (estimated)	An estimate of the total number of businesses that closed permanently during the lockdown	
Number of tourism jobs lost (estimated)	An estimation of the total numbers of tourism jobs (direct and indirect) lost since the lockdown	
Size of the informal sector within tourism	Estimated percentage of informal workers in the tourism sector	An understanding of this will help understand stated numbers in context
Impact on informal workers	Qualitative estimates on the effects of COVID-19 on the informal workers in tourism	
Frequency of international flights	Proportion of international flights	A direct indicator representing the level of international tourism activities

	operational compared to normal times	
Frequency of domestic flights	Proportion of domestic flights operational compared to normal times	A direct indicator representing the level of domestic tourism activities
Destination attractiveness	Qualitative description of what international tourists will look for before considering Nepal for their visit/vacation	Unless Nepal appeals to the international tourist market in post-COVID times, mere opening of its international borders will not fetch international tourists
Dependence on international tourists	The total contribution to GDP made by domestic and international tourists	With international tourism unlikely to recover significantly until fall 2021, this indicator shows Nepal tourism's dependency on its internal tourists

Table: List of indicators

According to [[Nepal Tourism Statistics 2019](#)], there are altogether 1254 registered hotels, 29 international airlines flying to Nepal, 20 domestic airlines, and 2469 registered trekking agencies. There are thousands of other hotels that are registered at the Company Registrar Office and they are not registered at the Department of tourism. With Nepal's international borders sealed and no inbound tourists, these businesses and the people whose livelihoods they sustain – either directly or indirectly – are all affected. As many as 10,000 businesses are estimated to have been permanently closed [[The Kathmandu Post](#)]. With no clear sight of tourism resuming any time soon, the situation is expected to take a turn for the worse.

The majority of Nepal's labor force—62% or 4.4 million people— works in the informal sector (Nepal Labor Force Survey 2018-2019). An [[ILO website](#)] states that as high as 70% of the economically active population is involved in the informal sector. The known fact that Nepalese tourism sector is also disproportionately informal in nature means that these impact statistics are most likely grossly underestimated.

Furthermore, the brunt of the impact is expected to be borne by the informal workers. Faris Hadad-Zervos, World Bank Country Director for Maldives, Nepal and Sri Lanka stated, "The economic consequences of the pandemic and impact on livelihoods across Nepal is expected to be the most acute for informal workers..."

On the other hand, the [[World Bank article](#)] interestingly posits that in this pandemic, the urban informal workers including the self-employed (which make more than 50% of enterprises in Nepal) are more vulnerable to the economic shock than the rural informal workers. This is because the rural households who can fall back on subsistence farming. And since most informal firms (including the undocumented hospitality amenities) operate

with limited savings, owners during the lockdown faced a difficult choice of staying home and facing starvation, or running their business and risking infection.

One of the biggest impacts on Nepalese tourism is the very sharp decline in the number of tourists coming into Nepal. The following table shows the comparison of tourists for the first three months in the year 2019 and 2020:

Months	2019	2020	% decline
January	81,273	79,686	2
February	102,423	101,400	1
March	127,351	34,025	73

Source: [Special report on COVID-19](#). An updated version of this table is available in <Appendix: Monthly Tourism Arrival>

Nepal's tourism started feeling the effects of COVID-19 since the beginning of 2020. However, these were not significant until March, as shown in the table. With the suspension of on-arrival visa first, and then with the cancellation of all international flights as imposed by the Government of Nepal, second order effects of COVID-19 began to take its toll on the Nepalese tourism since the month of March.

With the Visit Nepal 2020 officially cancelled, it also led to a drastic 50% decrease in Nepal Tourism Board's annual budget which is mainly collected from departing visitors as a tourism service fee. The tourism budget had crossed the NPR 1 billion mark for the first time after the 2015 Gorkha Earthquake in 2017. There was a 40% growth in tourist arrival in 2016-17, followed by a healthy 25% growth in 2017-2018 and 2018-2019. The tourism budget for Visit Nepal 2020 was NPR 0.61 billion before the cutdown. <elaborate on what does this decrease entail for tourism and its people?>

[Mensah 2020 via [this](#)] stressed that the tourism industry has always been hardest hit by pandemics like Plagues, notably, the Black Death (1346-1353), Spanish Flu (1918-1920), SARS (2002-2004), H1N1 Swine Flu (2009-2010) and Ebola Virus (2014-2016).

Additionally, [[Jamal and Budke 2020](#)] posit that one of the most prominent drivers of change to the tourism industry is the global health emergencies. Tourists are, by nature, risk averse and, thus, any actual or perceived threat to their health, safety or security is likely to influence their decision to visit a particular destination [[Sonmez & Graefe, 1998](#)]. However, the [[recent survey](#)] conducted by the Tourism Revival Task Force (TRTF) of Nepal has revealed that special efforts to train tourism employees on the Health and Safety Standards (HSS) are needed but lacking. Almost 30% of businesses in the hospitality sector and 49% of service providers in Travel, Treks & Adventure have not implemented safety-related

signages or feasibly contact-less service mechanisms. These situations will make it difficult to attract tourists even after tourism eventually resumes.

Through various talk programs and articles, tourism experts and stakeholders have voiced that international tourists will be markedly low – at least for the year 2021. This is in line with the findings of [\[UNWTO survey report\]](#). Even if the government decides to open the national border and resume international flights, it is highly unlikely that tourists will start coming to Nepal. Tekendra Mahat, the COO of Hotel Association of Nepal says, “Tourism is not an essential commodity and hence opening borders and flights will not bring international tourists to Nepal. They [the tourists] will be concerned about the available health and safety measures.” Therefore, there is a need to rebuild tourists’ trust in Nepal’s safety as a tourist destination. However, he also adds that there is no coordinated plan among the stakeholders as to how to accomplish this goal.

However, the future is not entirely bleak for Nepal and its tourism sector. Experts such as Hans Timmer, World Bank Chief Economist for the South Asia Region, believe that the pandemic provides opportunities for niche tourism markets such as Nepal. Such tourism will likely be in higher demand as the global economy in the days ahead. [\[The Kathmandu Post article\]](#) also quotes Binod Khadka, information officer at the Department of Industry, “Most of the promised investment is in the hotel, resort and restaurant sector. Despite the devastating impact of the pandemic on Nepal’s tourism industry, foreign investors may have seen prospects for growth in the long run.” According to him, more than two-thirds of the foreign investment pledges received in the five-month period that ended on November 8 was in these three sub-sectors.

The Tourism Vertical and its effects on impact assessment

The tourism vertical is a concept to understand and explain different sub-sectors within the tourism sector. It spans the entire range – from tourism policy and planning that drive tourism efforts; to accommodation, touristic activities, shopping; to tangent activities like construction of such accommodation or food and farming to feed the tourists at such accommodations. Given below is one such representative stack of tourism vertical.





Fig: A representative Tourism Vertical

Oftentimes, when we talk about tourism, certain sub-sectors are cast in the background. While sub-sectors like accommodation, travels and tours, trekking come to the fore, other sub-sectors like handicrafts and souvenirs, shops, policy, construction, etc. fall into the shadow. Even the UN Statistics Division-approved Tourism Satellite Accounting methodology (TSA:RMF 2008) quantifies only the direct contributions of Travel and Tourism such as accommodation, transportation, visitor exports, individual government T&T spending, etc. In contrast, WTTC attempts to capture its indirect and induced impacts as well. Hence, wherever possible, this report uses WTTC’s broader interpretation, as well as its statistics, to assess and estimate the impacts of COVID-19 on the Nepalese tourism.

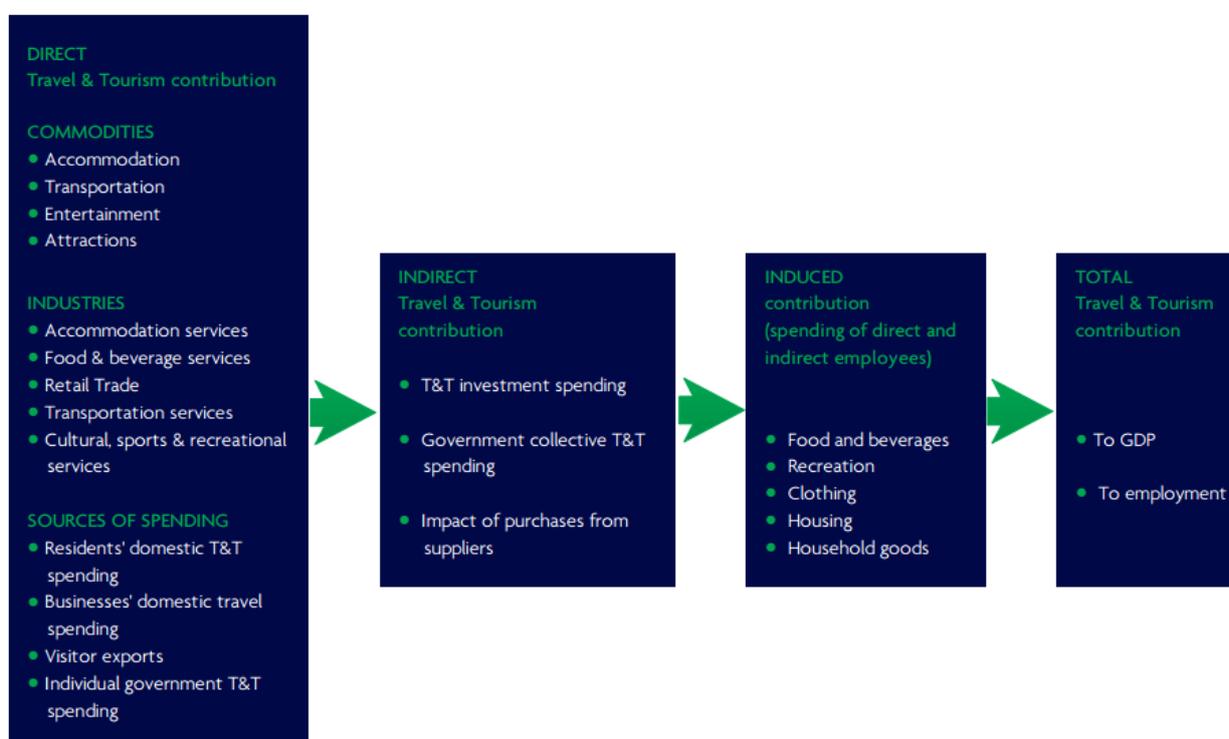


Fig: The Direct+Indirect Model of Contribution

Nonetheless, because of the high degree of informal actors and transactions in this sector, these numbers should be expected to be generally understated. The situation is graver than what is being reported in the media, said the entrepreneurs.

“About 1.2 million workers are directly or indirectly affected by the business shutdown. Total jobs affected directly are about 300,000,” said Basanta Raj Mishra, Chairman of Nepal Association of Tour Operators and Chairman of Nepal PATA Chapter. (Source: [The Rising Nepal](#))

VIII. Relief and recovery efforts

Different organizations have tried to create some respite for the reeling tourism sector. Nepal Mountaineering Association, for example, has come up with a three-phase plan of survival-revival-thrival. However, the General Secretary of NMA stated that many ideas which they had put in front of the government failed to reach the point of execution.

In the hotel sector, understanding at local levels has been developed and implemented in some places. For example, Thamel Tourism Development Council (TTDC) has reached an agreement with the house/property owners to waive off upto 50% of rent costs in order to provide some support to business owners. However, with no clear indication of if and when COVID-induced effect on tourism will subside, it is not sure how long this arrangement would last.

The Government of Nepal also set up NPR 50 billion fund for the COVID-19 affected tourism industry and SMEs. However, these are yet to reach the intended beneficiaries. The General Secretary of NMA says, for example, that the tour guides and porters are yet to ‘see’ what this budget does, if and when it eventually reaches them.

Different tourist associations have also successfully struck out relief packages with commercial banks. For example, members of the NMA are to get a debit card with NPR. 15,000 limit. They are also eligible to receive bank loans at low interest rates from these banks. However, these agreements are also limited to paper for now.

The following table lists down the assistance that Nepal has received from other countries and organizations to fight COVID-19:

Date	Country/Institution	Nature and Quantity of Support	Value	Remarks
13/4/20	Department for International		NRs1.2 billion	Grant

	Development, United Kingdom		(S\$14 million)	
13/4/20	Xi'an Municipality, Shaanxi, China	30,000 medical masks, 1,000 N95 masks, 500 personal protective units, 100 goggles, 30 forehead thermometers, 1 ventilator	NRs10.8 million (S\$0.12 million)	Butwal Sub Metropolitan City
16/4/20	G20	Suspended debt service payments for world's poorest countries through the end of the year		G20 finance ministers' meeting
20/4/20	United Nations Population Fund	1200 PPE	NRs30.48 million (S\$0.36 million)	
22/4/20	Xizang AR. China	10000 N95 masks, 10000 PPE, 1000 infrared thermometers, 2000 testing kits, 20000 VTMs, 50 boxes wet wipes		Through Tatopani
22/4/20	India	825,000 dosages of essentials medicine, 320,000 dosages of paracetamol, 250,000 dosages of hydroxychloroquine		
25/4/20	Temasek Foundation, Singapore	10,000 Fortitude Kit 2.0		
27/4/20	European Union		NRs9.8 million (S\$0.11 million)	NRs7.2 billion (S\$1 million reorientation of existing funds/res new commitment)
29/4/20	Qatar	725,000 PPE		Qatar Fund for Development

30/4/20	Buddhist Association Hainan, China	200,000 medical masks, 10,000 N95 masks	Hingfa temple in Shenzhen city and Chinese temple in Lumbini
30/4/20	United Arab Emirates	7 tons of medical supplies	
2/5/20	Germany	3,000 PCR test kits	
9/5/20	International Monetary Fund	S\$300 million	Rapid credit facility (100 per cent of quota)
11/5/20	China	40,000 units of diagnostic kits, 10,000 units of disposable coverall, 40,000 units of medical goggles, 200,000 units of N95 masks and 800,000 units of Surgical masks	Chinese Embassy in Kathmandu
1/6/2020	Asian Development Bank	US\$214 million (S\$98 million)	
1/6/2020	Tibet (China)	US\$650,00 (S\$900,000)	PCR, ventilator and X-ray portable machine for Province 1
7/4/2020	World Bank	US\$29 million (S\$40.4 million)	Soft loan
11/12/2020	UNDP	US\$ 2 million	Creates short term jobs for the affected communities

Source: Compiled by Keshav Bashyal from various news reports, Ministry of Finance, Government of Nepal (2020) and the World Bank

Donor agencies are also injecting financial and skill-based assistance. The World Bank, for example, is working to ensure the flow of critical supplies and equipment, and help the private sector continue to operate and sustain jobs [source [here](#)]. The EU has offered an aid package of NPR 9.8 billion to tackle the pandemic and to boost Nepal's economic response

[source [here](#)]. Systematic study on the effectiveness of such relief packages are yet to be conducted or published by the respective sources.

In summary, it is evident that various forms of relief packages have been designed and delivered by the government, NGOs and donor agencies. However, in the absence of the authentic reports on how they have been received on the ground, their effectiveness cannot be determined at the moment. Also, the intended recipients and beneficiaries are often quoted saying that these packages are yet to reach them.

IX. Findings and Learnings

- NTB's tourism budget for this year was slashed by more than 50%. Its trickle-down effects will be felt by about 1.5 million people who are directly or indirectly employed in tourism. At the average household size of 4.6 people per family, it is estimated to affect 9.2 million people.
- There is a silver lining to the otherwise gloomy tourism landscape in Nepal. Experts believe that Nepal and other South Asian nations have an opportunity to come out as a stronger component of the global tourism value chain through the use of digital tourism.
- Hotels are one of the hardest hit sub-sectors within Nepali tourism. Its growth rate is expected to shrink from 7.33% last year to negative 16.3% in 2020. Given the high investments in hotels, and higher employment multiplier in this sub-sector, its effects reach far beyond the immediate owner and employees of these hotels.
- Tourism associations, at this point, do not have an amicable relationship with the government. They see the government as being only mildly concerned about the associations' problems; the government, on the other hand, view these associations as exaggerating the real needs on the ground. This seems to be the bane of communication between the two.
- The government is under tremendous pressure to resume tourism, and has been acceding to such demands over time. Representatives of several tourist associations have put forth different plans as well as demands to the government. However, most are yet to be implemented.
- Based on the [TRTF's 'Readiness report'](#), there is value in gathering the needs of hospitality sector actors and bringing them to policy/decision-makers' attention. For example, an estimate of which hotels need specific kinds of training/assistance in implementing safety measures will enable the concerned stakeholders to plan and deliver such training to targeted audiences.
 - It might also make sense to expand this survey and conduct it with a larger number of respondents (this particular report is based on 502 responses only).

X. Implications for C2M2

- Almost all our interviewees, who are working at different levels and in different sub-sectors within tourism, agree on one thing; the tourism sector as a whole lacks data and documentation. And where data does exist, they often conflict with each other, hence casting more doubt than affirmation on the quality of extant data.
- Even for the existing data, they are scattered over different sources, making it extremely difficult for any individual or even organizations with ample resources to gather, assess and analyze these data in a quick and efficient way. There is a need for a consolidated source of data, emanating from credible sources, and accessible to the public.
- Experts strongly opine that it is futile to hope for substantial international tourism even in 2021. Therefore, domestic tourism should be promoted. However, this approach concerns certain members of the Tourism fraternity such as HAN because domestic tourists alone will not provide their businesses much relief. Thereby, they are looking for ways to revive international tourism through proactive reachout to international markets. Perhaps C2M2 can help them with this.
- Opening up borders and resuming international flights will not entice tourists to visit Nepal. There needs to be a mechanism to help tourist businesses understand (and communicate the same to other stakeholders) why tourists are reluctant to visit Nepal even after the borders open and flights resume.
- Most tourism associations such as HAN, NMA, TAAN, etc. have some forms of database of their members. However, they say it is not complete. Perhaps, helping them complete these datasets while adding geolocation components to the existing data elements could be an option for C2M2.
- Multiple interactions with several tourism associations have revealed that focused data collection from businesses and people along (a) current status, (b) preparedness, and (c) short and long term needs in their respective sub-sectors will be the associations in understanding the impact of, and devising effective mitigation measures against, the effects of COVID-19 in tourism.

Appendices

Appendix 1: Interviewees and stakeholders consulted

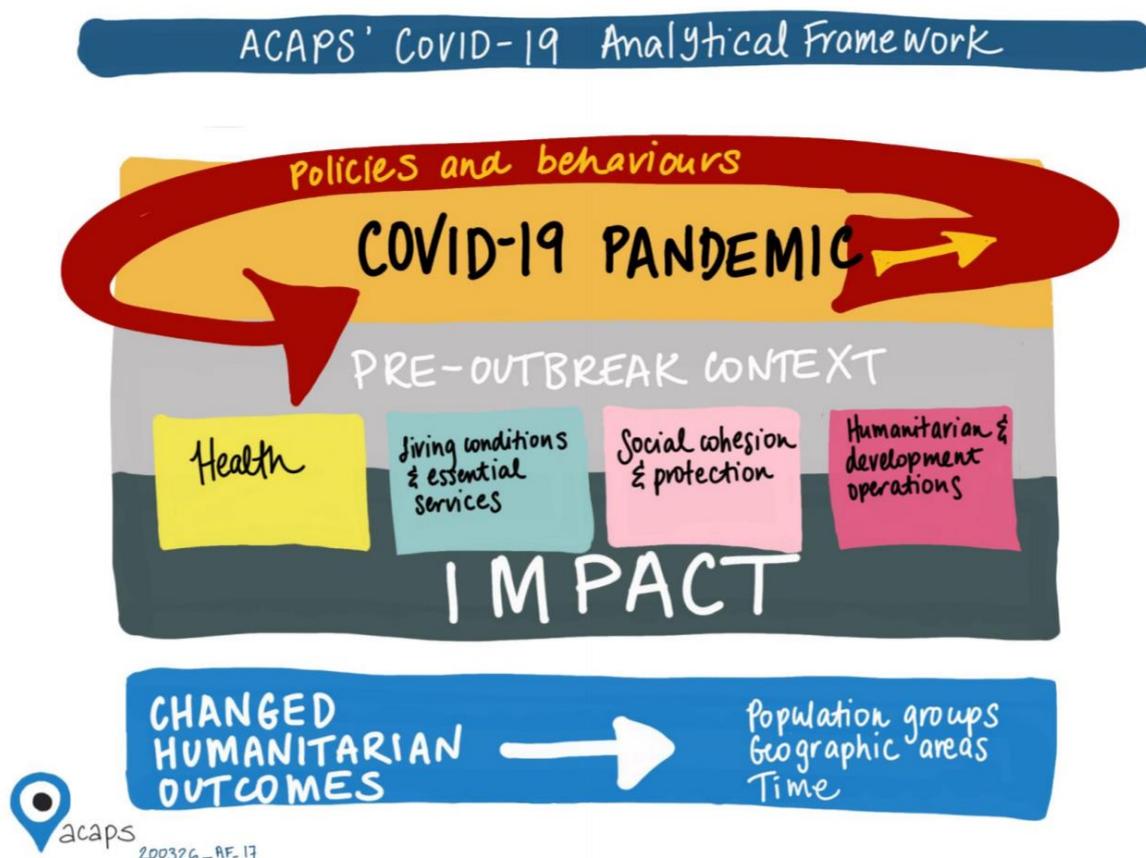
Person	Designation	Organization
Raj Gyawali	Nepal Ambassador	The Transformational Travel Council
Deepak Raj Joshi	Coordinator	Tourism Revival Task Force
Tek B. Mahat	Chief Operating Officer	Hotel Association Nepal
Kul Bahadur Gurung	General Secretary	Nepal Mountaineering Association
Mira Acharya	Director, Mountaineering Section	Government of Nepal's Department of Tourism
Ram Bdr. Shrestha	General Secretary	Union of Trekking Travels Rafting Workers Nepal
Shiva Dhakal	GC	Pacific Asia Travel Association
Achyut Guragain	President	Nepal Association of Tour & Travel Agents
Shishir Khanal	General Secretary	Nepal Association of Rafting Agencies
Badri Pd. Timalisina	Secretary	Thamel Tourism Development Committee
Santa Bir Lama	President	Nepal Mountaineering Association
Guna Raj Shrestha	Executive Member	Restaurants and Bars Association Nepal

Appendix 2: Monthly tourism arrival

Month	2019	2020	Remarks
January	81,273	79,686	By land and air
February	102,423	101,400	By land and air

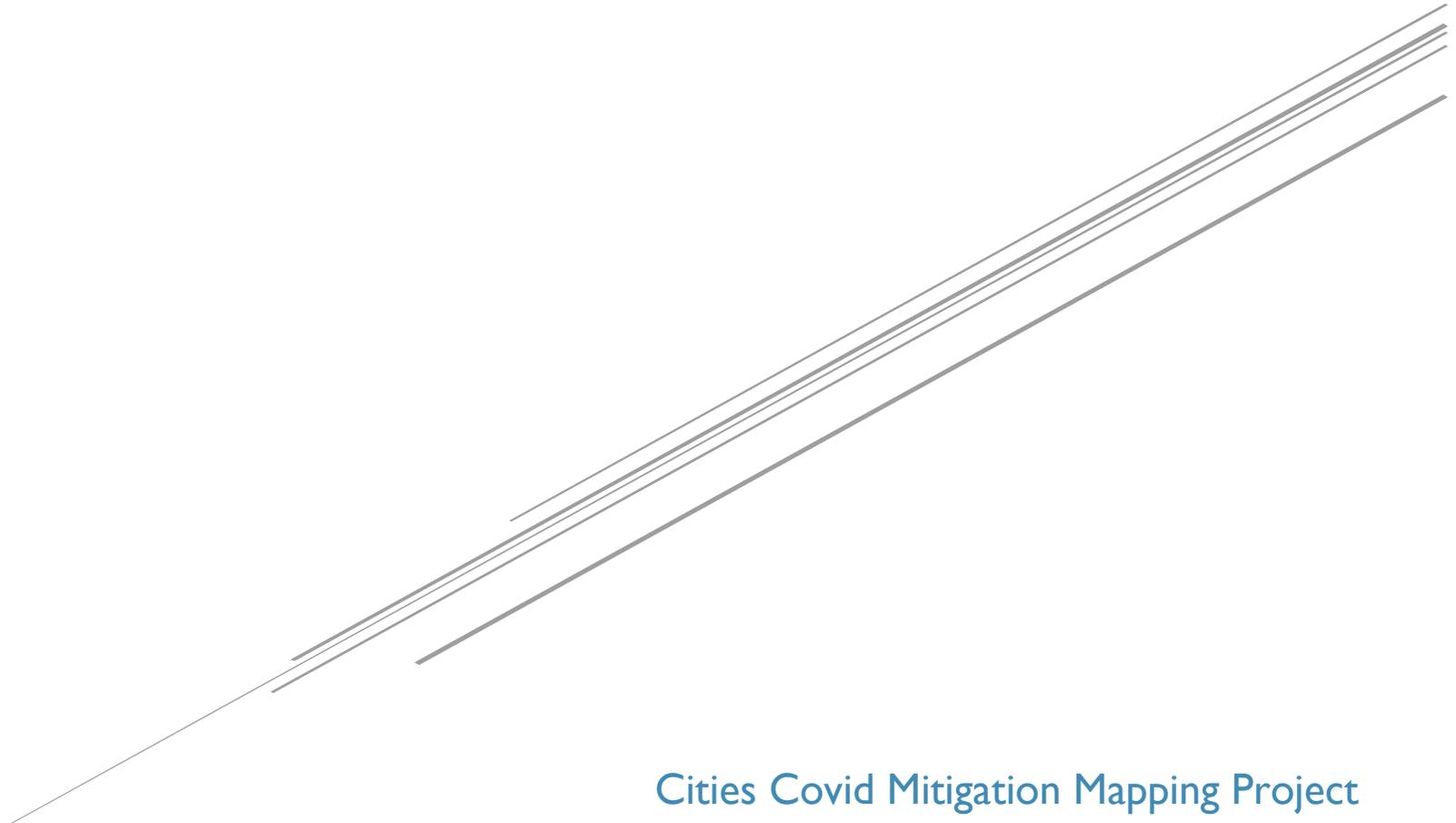
March	127,351	34,025	By air only
April	109,399	13	By air only
May	78,329	30	By air only
June	74,883	100	By air only
July	70,916	195	By air only
August	94,749	268	By air only
September	92,604	582	By air only
October	134,096	1,874	By air only
November	130,302	N/a	N/a
December	100,866	N/a	N/a
		Source: NTB via The Himalayan Times	

Appendix 3: ACAPS' Framework



TOURISM DATA IN NEPAL

A two-part report aimed at assessing available data and identifying data needs for understanding second-order impacts of Covid19 in the tourism industry



Cities Covid Mitigation Mapping Project
Kathmandu Hub

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Assessment of available tourism data

One of our goals with the project is to assess the availability and usability of tourism related data. The objectives and desired outcomes of this exercise therefore are as follows:

- Collate relevant information about Covid19 impacts in Kathmandu's tourism sector
- Identify key knowledge holders and producers
- Assess characteristics of available data

Note: For the purposes of this report, the term "data" refers to any table, chart, infographic or document that we have accumulated during the project duration.

Approach

Our approach for assessment of available data comprised of the following steps:

Data collation through desktop search

The first phase of data gathering involved looking for immediately available data and documents both in the public domain and in academic literature. Our search targeted websites of government agencies and private sector organizations within the tourism sector. In addition, we also looked for relevant studies by local and international non-governmental organizations that sought to understand local impacts of the pandemic as it relates to different stakeholders in the tourism industry. Finally, to gain a human perspective, we also looked for blog posts, news stories and articles that investigate the effects of the pandemic.

Informed by this exercise, we then engaged with the project's tourism expert and consulted some project stakeholders including Hotel Association of Nepal (HAN), Thamel Tourism Development Committee (TTDC), Nepal Tourism Board (NTB), etc., to include additional important sources that we may have initially missed.

Data cataloging

Barring newspaper articles and blog posts, we then proceeded to catalog the remaining datasets using the following metadata (data about data) scheme:

- Data/document title
- Publisher
- Frequency of data collection (annual, one-off)
- Data time frame as per ACAP's Covid Analytical Framework (crisis, or pre-outbreak)
- If the data are specifically focused on the tourism industry? (yes/no)
- Sectoral focus of the study (tourism businesses, tourist activity, tourism workforce, etc.)
- Knowledge generator category (government, non-government organization, special task force, local businesses, citizens)
- Nature of the data (aggregated vs. raw)

- Collection method (survey, standard government process, e.g., immigrations, mountaineering permits etc.)

Analysis

Finally, using metadata created during the cataloging exercise, we then proceeded to analyze available data to generate insights around how data varies by knowledge producer, frequency of data collection, time of data collection, and so on.

Findings and results

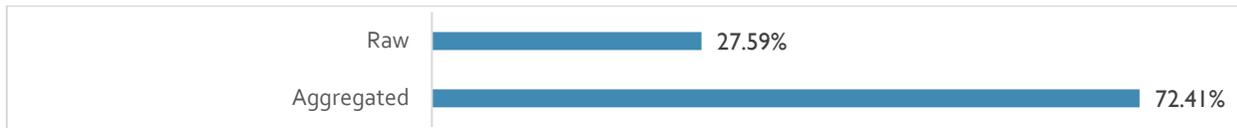
This section contains results of our available data assessment exercise, and comprises of the following two analyses:

Analysis I: Characteristics of collated datasets

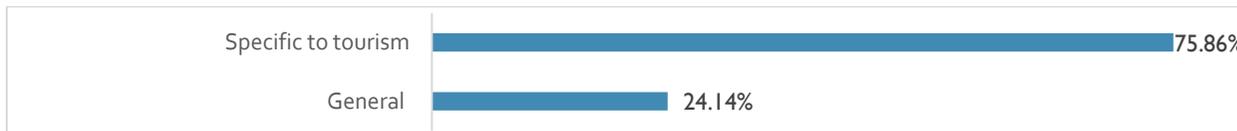
In this section, we look at characteristics of accumulated data based on the meta-data generated through out data cataloging exercise. Since data collection is an ongoing process, it should be noted that the results shown in this exercise are likely to change as more data comes in during the course of this project.

To provide better insight into the nature of data collected, we've further grouped available data on the basis of the following two criteria:

- a. **Granularity:** Since the level of detail at which data is available – whether the dataset contains national summary statistics or if it contains information for individual businesses – determines whether data can be combined for future analysis, distinguishing data based on its granularity (raw vs. aggregated) will give a clearer picture of the nature of available information and help highlight gaps. As we can see, nearly three quarters (72%) of data that we've managed to gather are available in the form of aggregated statistics.



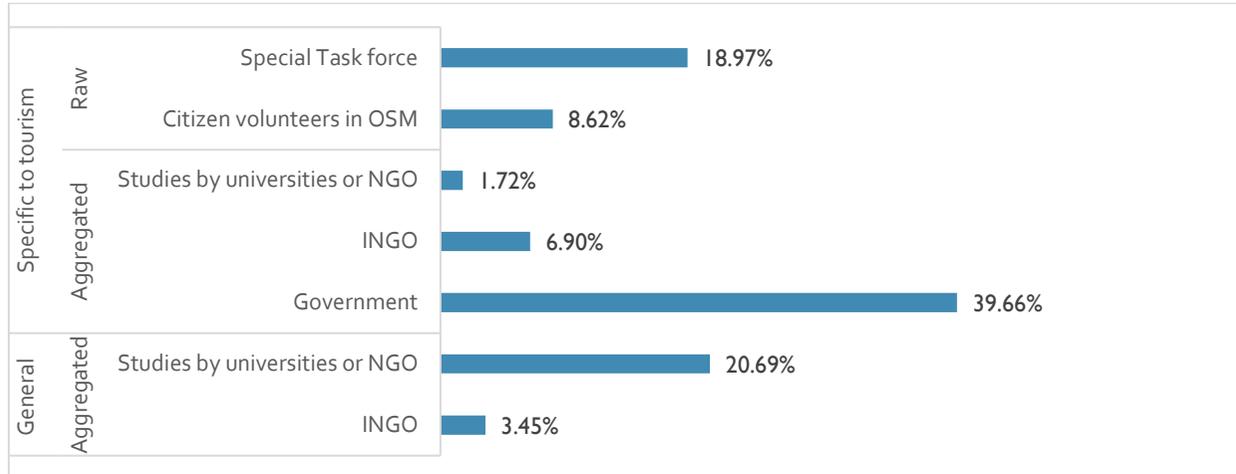
- b. **Specificity of the data to the tourism sector:** During data collation, we also encountered datasets that – although not directly related to tourism – helped inform our understanding of second-order impacts as they apply to communities, businesses, and the labor market. Distinguishing data based on its specificity to the tourism sector is also equally important in helping us understand the range of available data and highlight gaps, if any. As we can see, around 76% of available data is specific to the tourism industry.



It goes without saying that data which is granular and specific to the tourism industry will therefore be more valuable to future analyses.

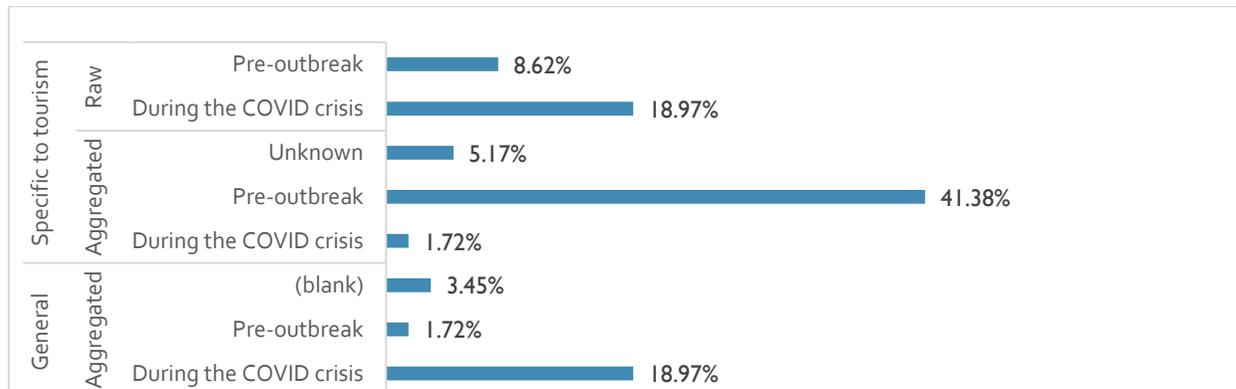
Available data by knowledge producer

As shown in figure below, majority of tourism datasets that have been collated have come through government reports and fact sheets (~40%). Around 19% of data comes through a survey conducted by the Tourism Revival Task Force (TRTF), which was created in response to the pandemic. Volunteered geographic information in OSM similarly contributes 9%. It is important to note that ~72% of the data is available as aggregated statistics and only ~28% is available in raw form.



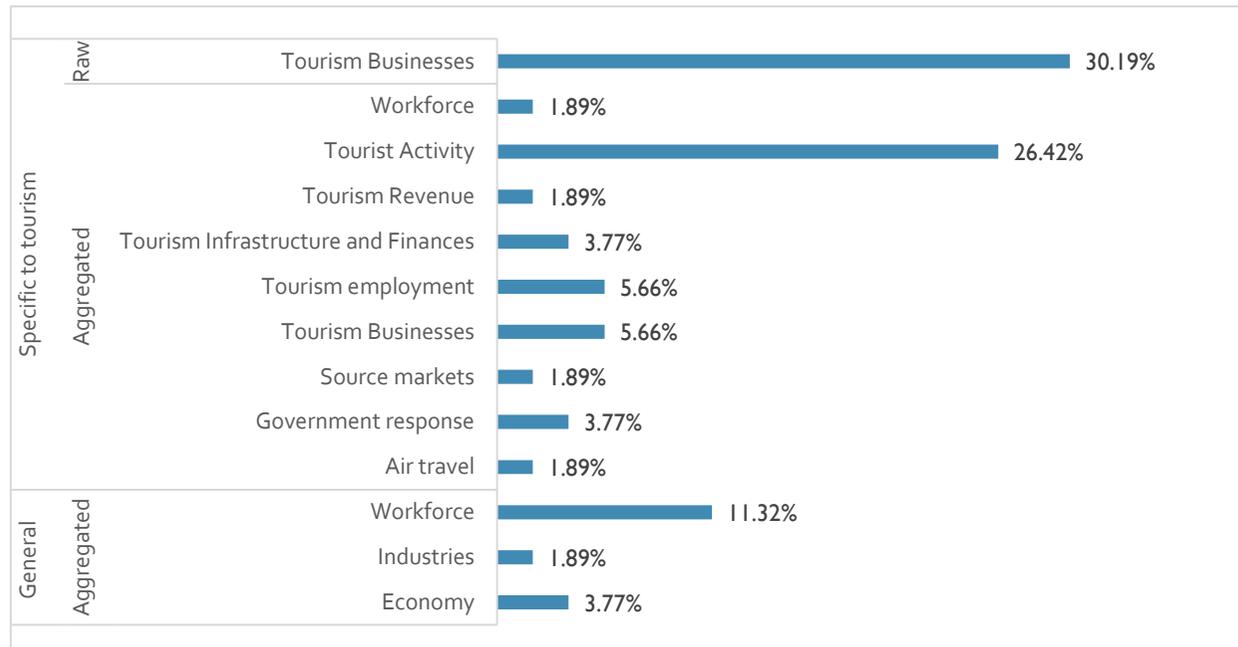
Available data by time of data creation

As shown in figure below, only ~20% of available tourism data was measured during the COVID19 crisis. It is important to note that only ~72% of the data is available as aggregated statistics and only ~28% is available in raw form.



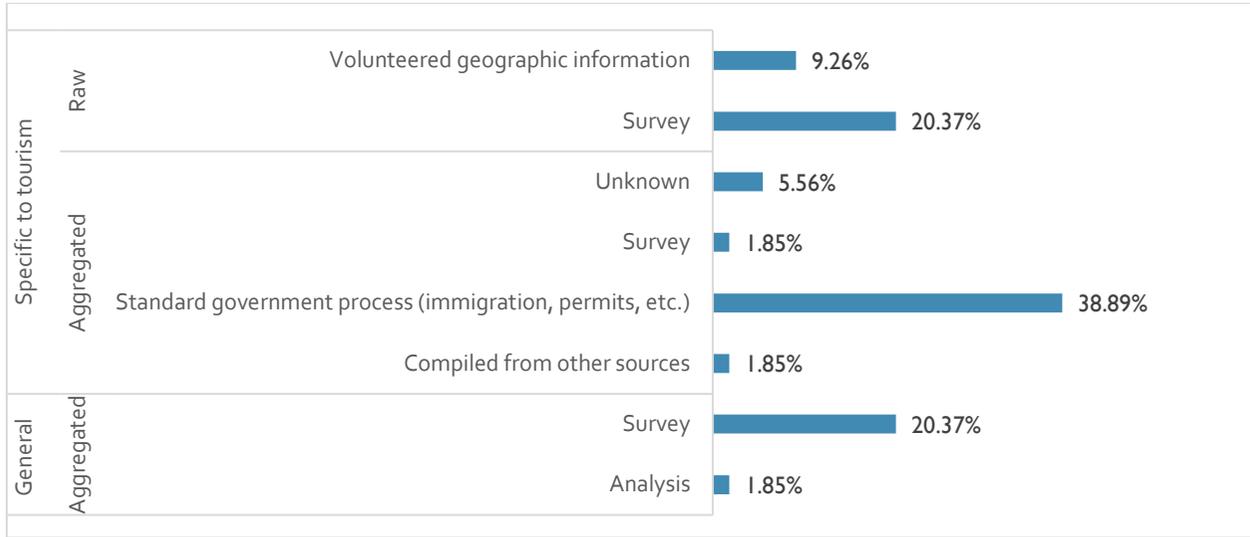
Available data by study focus area

Around 36% of available tourism data contains information on tourism businesses. It's interesting to note that raw data is only available for tourism businesses.



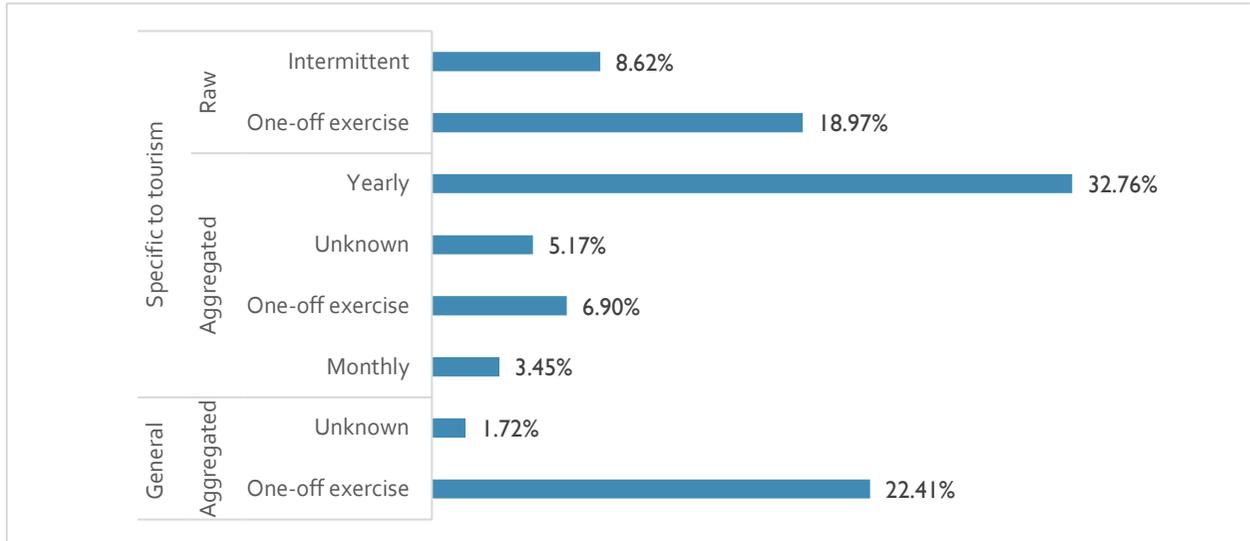
Available data by measurement technique

All of the high granularity data (raw) is either collected through surveys and or available as volunteered geographic information in OpenStreetMap.



Available data by frequency of data collection

As we can see from the graph below, we haven't received any data in raw form to periodic data creation exercises. Instead, all of our granular data comes from one-off surveys or intermittent mapping activities carried out in OpenStreetMap.



Raw data

Please refer to Annex 2 for the raw tables used in this analysis.

Analysis 2: Publicly available tourism data on OpenStreetMap

For this report, we also looked at tourism specific data on OpenStreetMap during the data collation exercise. By analyzing the availability of secondary attributes, we checked the data for its completeness. Similarly, to get an understanding of recency, we looked at every entity's date of last modification. Our approach and findings are summarized in the sections that follow.

Approach

First, OSM data within a given geographic bounds is extracted using the *osmnx* python library. After this, by making requests to the Overpass API, we look at the latest date at which each entity is modified. Finally, after joining these two datasets, we generate summary statistics and time series plots to understand attribute coverage and data recency.

Findings

This section describes our findings with regards to available tourism data for Kathmandu valley in OpenStreetMap.

OSM tourism amenities by type

Table below describes the distribution of tourism related amenities in OSM. We have also included the tags used for identifying these amenities in OSM.

Amenity	Count	Tagging convention
Hotels	578	tourism=hotel
Guest houses	291	tourism=guest_house
Restaurants	1324	amenity=restaurant
Bars	62	amenity=bar
Nightclubs	8	amenity=nightclub
Cafes	696	amenity=cafe
Travel and tour operators	396	shop=travel_agency

OSM tourism amenities by secondary attribute availability

We looked at the availability of secondary information by checking for the completeness of different tags such as – but not limited to – name, email, opening hours, etc.

Amenity	name	email	phone	opening_hours	beds	rooms	stars
Hotels	61%	11%	20%	10%	0%	3%	3%
Guest houses	42%	11%	23%	12%	0%	1%	0%
Restaurants	60%	4%	14%	14%	-	-	-

Bars	32%	5%	17%	21%	-	-	-
Nightclubs	56%	0%	11%	0%	-	-	-
Cafes	54%	3%	12%	16%	-	-	-
Travel and tour operators	64%	32%	36%	26%	-	-	-

OSM tourism amenities by date of last modification

In an effort to understand the recency of available, we finally looked at the date of last modification. Table below summarizes findings by amenity type.

Amenity	N, Pre-Covid19	N, During the pandemic	%, Pre-Covid19	%, During the pandemic
Hotels	544	34	94%	6%
Guest houses	279	12	96%	4%
Restaurants	1175	149	89%	11%
Bars	54	8	87%	13%
Nightclubs	5	3	63%	38%
Cafes	589	107	85%	15%
Travel and tour operators	359	37	91%	9%

Code and raw data

Further details around this analysis, including python scripts that were used to automate the extraction of these numbers, CSV data, and individual reports on each of the above amenities is publicly available in the following GitHub repository: <https://github.com/c2m2-asia/kathmandu-hub-osm-analysis>

Identification of data needs and gaps

In the second part, we discuss our approach, and summarize our findings with respect to identifying data gaps and user needs.

Approach

Our approach to understanding user needs involves a mixed method approach that combines problem frontloading and scoping with multiple interviews with stakeholders from the tourism industry. The focus of this exercise was to collaborate with stakeholders from the tourism industry to identify priority areas where data can support their needs with respect to advocacy and decision-making for tourism revival.

Frontloading through factor maps

Drawing on the domain knowledge our tourism expert and information gathered during the data collation exercise, we engaged in series of mind mapping exercises that would allow us to refine our understanding of the problem. The goal was to decompose the broader topic of understanding “second order impacts of Covid19 in tourism” into independent, mutually exclusive branches or “factors” focusing on different components of the tourism ecosystem such as – but not limited to – tourism businesses, tourism workforce, or tourism source markets. With every branch, we then repeated the process, until we arrived at edge nodes that would be written in the form of hypotheses which can be tested with data. Consider the example shown in the image below, which shows a portion of our “factor map” focusing on the impact of Covid19 to tourism businesses. As we can see, as the depth of the tree increases, the nature of the questions we ask become more specific.

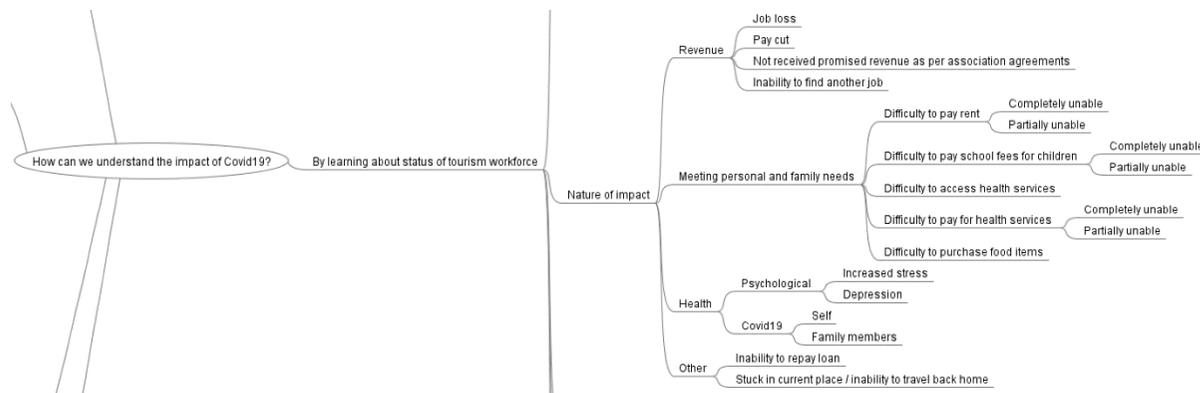


Figure: A section of our factor map that seeks to understand the second-order impacts on Covid 19 on tourism. [Click here to review the larger, complete version.](#)

Our goals with the factor mapping exercise were as follows:

1. *Information organization and problem decomposition:* Tourism is a very broad topic, and the exercise would force us to break the problem into smaller independent chunks and make it more manageable.

2. *Identification of analysis dimensions and potential stakeholders:* The exercise would help us recognize cross-sectional lenses through which to look at tourism data: types and categories of tourism business, skill levels associated with different tourism professions, etc. Additionally, the exercise would also not only help us recognize stakeholders, but also help us refine our questions when reaching out to them.
3. *Identification of data gaps:* For reasons ranging from accessibility to affordability, it was expected from the onset, that data wouldn't be equally accessible for all branches. The factor map would allow us to identify where these gaps lie.
4. *Defining scope of investigation:* The visual nature of factor maps makes it an effective communication tool. This helped us validate our understanding with project stakeholders, who helped us prioritize branches and narrow down the scope of future exploration.

Stakeholder interviews and focus group discussions

Armed with our factor map, we then proceeded to improve our understanding of stakeholder data needs. We organized semi-structured, in-person interviews and focused group discussion with potential project stakeholders. In doing this we reached out to government officials, tourism business owners, and members from different tourism associations such as Hotel Association of Nepal, Restaurants and Bar Association of Nepal, Pacific Asia Travel Association (PATA) Nepal, Union of Trekking Travels Rafting Workers (UNITRAV) Nepal, etc. Our purpose of engaging in this exercise can be described as follows:

1. Inform stakeholder about project goals, and establish partnerships for seeking assistance in future project activities
2. Understand and identify priority areas where data support the decision-making and advocacy related goals of the stakeholders by collaboratively engaging them in discussion and feedback on our factor maps
3. Learn about stakeholders' efforts to collect information around the tourism industry in addition to gaining insight on some of their challenges

Findings

In this section we summarize our learnings from the data needs perspective. We begin by sharing the refined version of our factor maps, which was revised drawing on inputs from the following meetings and workshops:

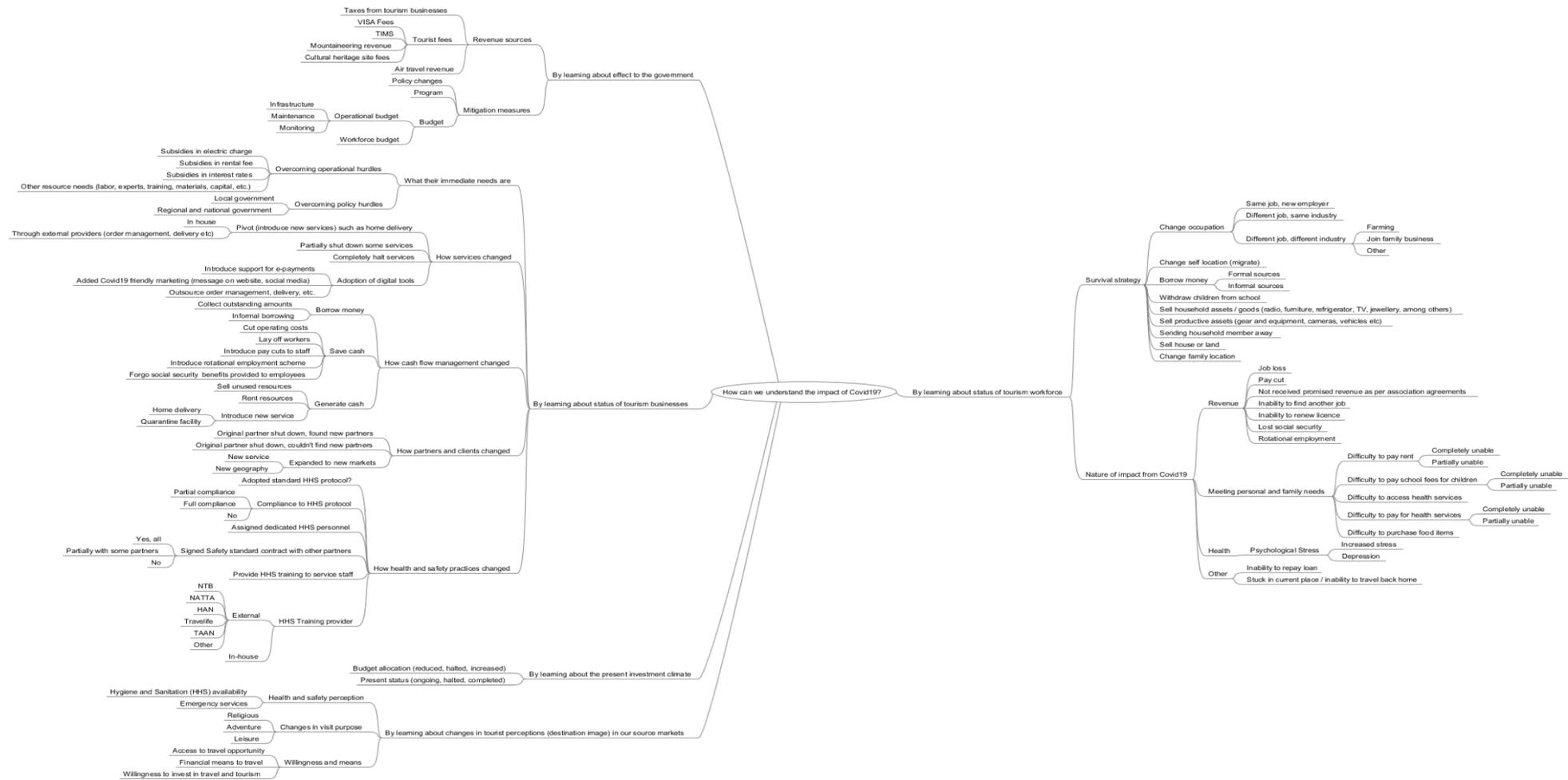
1. Tourism Stakeholder's Workshop (December 21 2020): This event brought together 8 representatives from the following associations and trade unions:
 - a. Pacific Asia Travel Association (PATA) Nepal Chapter
 - b. Hotel Association of Nepal (HAN)
 - c. Restaurant and Bar Association Nepal (REBAN)
 - d. Union of Trekking Travels Rafting Workers Nepal (UNITRAV)
 - e. Nepal Mountaineering Association (NMA)
 - f. Thamel Tourism Development Council (TTDC)
 - g. Nepal Association of Rafting Agencies (NARA)
 - h. Nepal Association of Tour & Travel Agents (NATTA)
2. Meeting with Thamel Tourism Development Council (TTDC) on 23 December 2020

3. Meeting with Hotel Association of Nepal (HAN) on 23 December 2020

This is then followed by our analysis of the edge components of the refined factor map, where we look at data availability, need, and prior attempts to collect this information. Finally, we end the report by presenting recommendations and next steps from a project perspective.

Revised factor map

Click on the image below to preview the full version of our refined factor map.



Analyzing factors based on data availability and importance

Please refer to the table below, which assesses all factors from our factor map with respect to data availability, need, prior or current effort to collect this info, and lists dimensions across which each of these factors can be analyzed.

Branch node	Dimensions (analytic lenses)	Factors (how populations might differ)			Data available?	Data need (high, medium, low)	Is (or has) someone working to gather this data?	Notes		
		Level 1	Level 2	Level 3						
By learning about status of tourism workforce	<p>1. Skill requirements for different jobs:</p> <ul style="list-style-type: none"> - Skilled jobs (manager, instructors) - Semi skilled (waiter, cook, tour guide) - Raw / unskilled (porters, tour guides, etc.) <p>2. Level of experience of the person:</p> <ul style="list-style-type: none"> - Less than 1 year - 1-5 years - 5-15 years - 15+ years <p>3. Location (proximity to market)</p>	Survival strategy	Change occupation	Same job, new employer	No	High	No	Big concern according to multiple stakeholders (UNITRAV, HAN, NMA). Skills in the tourism industry are not always transferable (tour guides, mountaineering guides, etc.) Losing out valuable labor force will hamper revival and recovery in the long run.		
				Different job, same industry	No	High	No			
				Different job, different industry	No	High	No			
						Change self-location (migrate)	No	Medium	No	
					Borrow money	Formal sources	No	Medium	No	According to a cross-industry post-covid socioeconomic impact survey organized by UNDP (study was not specific to tourism sector), borrowing money was an important coping strategy for most participants in the survey. We think investigating this phenomena in the tourism sector will be relevant.
						Informal sources	No	Medium	No	
						Withdraw children from school	No	High	No	These factors will be more refined after we talk to UNITRAV
						Sell household assets / goods (radio, furniture, refrigerator, TV, jewelry, among others)	No	High	No	
						Sell productive assets (gear and equipment, cameras, vehicles etc.)	No	High	No	
						Sending household member away	No	High	No	
						Sell house or land	No	High	No	
						Change family location	No	High	No	

Branch node	Dimensions (analytic lenses)	Factors (how populations might differ)			Data available?	Data need (high, medium, low)	Is (or has) someone working to gather this data?	Notes
		Level 1	Level 2	Level 3				
		Nature of impact from Covid19	Revenue	Job loss	Anecdotal	High	No	While anecdotal evidence and high level national estimates have been found in newspaper articles, there has been no micro level study on assessing the same. The need for this data has been validated by multiple stakeholders.
				Pay cut	No	High	No	
				Not received promised revenue as per association agreements	Anecdotal	High	No	As suggested by NMA, HAN
				Inability to find another job	No	Medium	No	
				Inability to renew license	No	High	No	This phenomena has been observed by UNITRAV secretary and suggested that the extent of this needs to be investigated
				Lost social security	No	High	No	Suggested by HAN, data unavailable.
				Rotational employment	No	High	No	Suggested by HAN, data unavailable.
			Meeting personal and family needs	Difficulty to pay rent	No	High	No	These factors will be more refined after we talk to UNITRAV (Union of Trekking Travels Rafting Workers Nepal) who work closely with members of the tourism workforce
				Difficulty to pay school fees for children	No	High	No	
				Difficulty to access health services	No	High	No	
				Difficulty to pay for health services	No	High	No	
				Difficulty to purchase food items	No	High	No	
				Psychological stress	No	High	No	

Branch node	Dimensions (analytic lenses)	Factors (how populations might differ)			Data available?	Data need (high, medium, low)	Is (or has) someone working to gather this data?	Notes
		Level 1	Level 2	Level 3				
			Health related	Depression	No	High	No	
			Other	Inability to repay loan	Anecdotal	High	No	
				Stuck in current place / inability to travel back home	No	High	No	
By learning about status of tourism businesses	1. Sector - Accommodation - Hotels - Guest houses - Tours and Transport - Experience selling - Yoga - Bungee - Paragliding - Meditation - Restaurants? - Entertainment - Dance bars - Night clubs 2. Age of the business 3. Size of the business - Employees - Revenue	How services changed	Pivot (introduce new services) such as home delivery, quarantine, etc.	In house	No	High	No	As discussed in the Dec 21 Stakeholders' meeting
				Through external providers (order management, delivery etc.)	No	High	No	As discussed in the Dec 21 Stakeholders' meeting
			Partially shut down some services		Anecdotal	High	No	Hotels and other accommodation related businesses are assumed to adopt this model, given their high operational costs and the need to keep functioning. HAN, TRTF, TTDC suggest that this information will be highly valuable for advocacy purposes
			Completely halt services		Anecdotal	High	No	According to TTDC, behavior varies depending on the sector. It is estimated that a lot of travel and tour operators have already done this because of low operational costs. HAN, TRTF, TTDC suggest that this information will be highly valuable for advocacy purposes
			Adoption of digital tools	Introduce support for e-payments	No	High	No	

Branch node	Dimensions (analytic lenses)	Factors (how populations might differ)			Data available?	Data need (high, medium, low)	Is (or has) someone working to gather this data?	Notes	
		Level 1	Level 2	Level 3					
				Outsource order management, delivery etc.	No	High			
				Added Covid19 friendly marketing (message on website, social media)	No	High	No	Suggested by HAN, will become more refined through futher discussion with them.	
		How cash flow management changed	Borrow cash	Collect outstanding amounts	No	High	No		
				Informal borrowing	No	High	No		
			Save cash		Cut operating costs	No	High	No	
					Lay off workers	Anecdotal	High	No	
					Introduce pay cuts to staff	Anecdotal	High	No	
					Introduce rotational employment scheme	No	High	No	Mentioned by HAN; data around the extent is unavailable.
					Forgo social security benefits provided to employees	No	High	No	
			Generate cash		Sell unused resources	No	High	No	
					Rent resources	No	High	No	
					Introduce new service (home delivery, quarantine facility etc.)	No	High	No	
			How partners and clients changed		Original partner shut down, found new partners	No	Medium	No	
					Original partner shut down, couldn't find new partners	No	Medium	No	

Branch node	Dimensions (analytic lenses)	Factors (how populations might differ)			Data available?	Data need (high, medium, low)	Is (or has) someone working to gather this data?	Notes
		Level 1	Level 2	Level 3				
			Changed market	New service	No	High	No	
				New geography	No	High	No	
	How health and safety practices changed	Adopted standard HHS protocol?		Yes (TRTF Survey September 2020)	High	Yes	This information is useful from understanding how ready businesses are in function in a post Covid world. Data has been gathered for ~250 businesses by Tourism Recovery Task Force to assess readiness.	
		Compliance to HHS protocol	Partial compliance					
			Full compliance					
			No					
		Assigned dedicated HHS personnel						
		Signed Safety standard contract with other partners	Yes, all					
			Partially with some partners					
			No					
		Provide HHS training to service staff						
		HHS Training provider	External					
	In-house							
	What their immediate needs are	Overcoming operational hurdles	Subsidies in electric charge		Anecdotal	High	No	
			Subsidies in rental fee		Anecdotal	High	No	
			Subsidies in interest rates		Anecdotal	High	No	
			Other resource needs (labor, experts, training, materials, capital, etc.)		Anecdotal	High	No	
		Overcoming policy hurdles	Local government			High	No	
			Regional and national government			High	No	

Branch node	Dimensions (analytic lenses)	Factors (how populations might differ)			Data available?	Data need (high, medium, low)	Is (or has) someone working to gather this data?	Notes
		Level 1	Level 2	Level 3				
By learning about the present investment climate	<p>1. Investment nature: - FDI - Domestic Investment</p> <p>2. Sector - Accommodation - Tours and Transport - Experience selling - Entertainment</p> <p>3. Nature of project: - National pride (centrally funded) - Local level projects</p> <p>4. Actor: - Private Sector - Government</p>	How budget allocation has changed	Reduced	Partially available (at a high level, for government projects)	High	Yes, partially	<p>All participating organizations in the Dec 21 stakeholder's meeting stressed on the importance of having accurate, granular data on tourism investments, emphasizing the usefulness of such data for policy making and advocacy purposes. However, while high level investment and expenditure information on government projects are accessible because of the constitutional mandate on government ministries to release them on a quarterly basis, accessing this information from the private sector will be extremely difficult.</p> <p>Members from TTDC informed that prior attempts to gather this info from privately owned businesses have been discouraging because of reasons such as owners' mistrust, false reporting, etc.</p>	
			Stopped	Partially available (at a high level, for government projects)	High	Yes, partially		
			Increased	Partially available (at a high level, for government projects)	High	Yes, partially		
		What the status of these projects are	Ongoing	Partially available (at a high level, for government projects)	High	Yes, partially		
			Halted	Partially available (at a high level, for government projects)	High	Yes, partially		
			Completed	Partially available (at a high level, for government projects)	High	Yes, partially		
By learning about changes in tourist	1. Source market (India, China, etc.)		Hygiene and Sanitation (HHS) availability	No	High	No	All the participating organizations in the Dec 21 stakeholders'	

Branch node	Dimensions (analytic lenses)	Factors (how populations might differ)			Data available?	Data need (high, medium, low)	Is (or has) someone working to gather this data?	Notes	
		Level 1	Level 2	Level 3					
perceptions (destination image) in our source markets		Health and safety perception	Emergency services		No	High	No	meeting voiced that knowing source markets' perceptions and tourist needs are their priority, as they can then plan and mobilize their resources accordingly. However, such data collection requires international collaboration with research houses in those countries.	
		Changes in visit purpose	Religious		Yes, but only for pre-crisis phase (Ministry Report and Tourism Fact Sheet 2019)	High	No		
			Adventure			High	No		
			Leisure			High	No		
		Willingness and means	Access to travel opportunity		No	High	No		
			Financial means to travel		No	High	No		
			Willingness to invest in travel and tourism		No	High	No		
By learning about effect to the government	<p>I. Sector</p> <ul style="list-style-type: none"> - Accommodation - Tours and Transport - Experience selling - Entertainment <p>2. Actor:</p> <ul style="list-style-type: none"> - Private Sector - Government 	Revenue sources	Taxes from tourism businesses		No, not publicly available	High	Yes	Government data such as these are useful in getting a formal picture, which can then be used to triangulate data from other sources. Government data are also published periodically, but for 2020, these data may be available in the next 3-4 months only.	
			Tourist fees	VISA Fees		Yes available in combined form as "gross earnings from tourism", but only for pre-crisis phase (Ministry Report and Tourism Fact Sheet 2019)	High		Yes
				TIMS			High		Yes
				Mountaineering revenue			High		Yes
				Cultural heritage site fees			High		Yes
			Policy changes		WIP	High	WIP		

Branch node	Dimensions (analytic lenses)	Factors (how populations might differ)			Data available?	Data need (high, medium, low)	Is (or has) someone working to gather this data?	Notes	
		Level 1	Level 2	Level 3					
		Mitigation measures	Program		WIP	High	WIP		
			Budget	Operational budget (Infrastructure, maintenance, monitoring)		WIP	High	WIP	
				Workforce budget		WIP	High	WIP	

To summarize, the factor mapping exercise combined with interviews and focused group discussions resulted in the following five independent branches that would help us holistically understand the impact of Covid19 in the tourism industry:

1. **Impact of Covid19 on tourism businesses:** For purposes of advocacy and policy formulation, there is great interest in tourism associations to gather data around the present states and needs of businesses in the tourism sector. According to Bhavi Sharma, vice-chairman of Thamel Tourism Development Council, recent efforts on to evaluate situation on the ground has been limited to generating rough estimates of total businesses and losses using company registry data available through ward offices within Kathmandu's Thamel area. He suggests that micro-level data is yet to be collected, and can substantially help inform their understanding of situation on the ground. Therefore, we've concluded that generating primary data around the tourism businesses will be one of our priorities in the project.
2. **Impact of Covid19 on the tourism workforce:** Just as is the case with business data, data on the tourism workforce will be equally helpful in understanding socioeconomic impact, and assessing immediate needs, and recognizing vulnerable groups within the tourism community. Realizing that there have been no efforts so far to collect data from individual members of the tourism labor force, and that such data, if available, will greatly help strengthen the voice of workers' association such as UNITRAV and NARA with regards to their advocacy and lobbying efforts, we've concluded that generating primary data around the tourism workforce will be one of our priorities in the project.
3. **Impact of Covid19 on investments within the tourism industry:** All participating organizations in the Dec 21 stakeholder's meeting stressed on the importance of having accurate, granular data on tourism investments, emphasizing the usefulness of such data for policy making and advocacy purposes. However, while high level investment and expenditure information on government projects are accessible because of the constitutional mandate on government ministries to release them on a quarterly basis, accessing this information from the private sector will be extremely difficult. Members from TTDC informed that prior attempts to gather this info from privately owned businesses have been discouraging because of reasons such as owners' lack of trust, the sensitivity associated with such

information, lack of incentives to report true information etc. Owing to the difficulty associated with collecting this information, and the possibility of false reporting, we will we have decided to forgo the idea of collecting primary data around this topic and stick to simply consolidate available information.

4. **Impact of Covid19 on the government:** Government data such as revenues from tourism, immigrations statistics are useful in getting a formal picture. By law, the constitution mandates government ministries to periodically release information on its plans, policies, budget and expenses relating to tourism. Furthermore, the Ministry of Culture Tourism and Civil Aviation releases indicators on immigration, tourist activity on a yearly basis. Because a separate formal entity that is responsible for primary data collection and dissemination is already in place, our work around government data should focus on consolidating, organizing, and digitizing, available information.
5. **Impact on Covid19 on Nepal's image as a tourist destination:** All the participating organizations in the Dec 21 stakeholders' meeting voiced that knowing source markets' perceptions and tourist needs are their priority, as they can then plan and execute strategies to attract and retain international tourists. However, such data collection requires international collaboration with research houses in those countries, and will be costly. As a result, gathering data around the changing international perception of Nepal as a tourist destination, we've concluded, extends beyond the scope of our project. While we will be working to consolidate available information, we have decided to forgo the possibility of creating data around this.

Recommendations and next steps

Collect primary data for businesses and workforce in the tourism industry; consolidate secondary data for rest

Given the lack of effort into gathering micro-level data around the current state and needs of tourism workforce and businesses, we should work towards filling this gap, as this will directly benefit the stakeholders we've interacted by helping them generate crucial ground-based evidence to support their decisions, and inform advocacy and lobbying efforts. On the other hand, because government ministries are constitutionally mandated to release information around plans, policies, programs, budgets and revenues associated with tourism, it'd be best if we apply our efforts in bringing together information that is scattered across websites, reports, and documents.

Focus data collection efforts on understanding a) present impact, b) preparedness, and c) immediate needs

Given our project's focus on tourism sector revival, we should focus our data collection efforts on a) conducting a baseline assessment of present impacts to businesses and workforce in the tourism industry, and b) gathering evidence on industry preparedness and immediate needs to inform future advocacy and lobbying efforts.

Start from Thamel

Thamel, a commercial neighborhood located in Kathmandu, has been considered the center of the tourist industry in Nepal for the last four decades. According to Thamel Tourism Development Council, an estimated 8000 businesses operate through Thamel. According to Mr. Deepak Raj Joshi, our tourism expert and former CEO of the Nepal Tourism Board, around 80% of tourism businesses in the entire country operate through Thamel. Given the diversity of businesses operating in the area, our

proximity to the area, as well as direct accessibility to tourism stakeholders through the Thamel Tourism Development Council, it is therefore recommended to focus our primary data collection efforts from Thamel.

Digitize and organize available data

While tourism data exists, it is often scattered across reports and websites of different government and non-government organizations. Further, publicly available data shared in PDF format, and as a result, is not machine readable. Translating these datasets to machine readable formats such as CSVs or API endpoints can be a valuable tertiary outcome for the project as it can help support and expedite other analyses in the future.

Update and enrich OpenStreetMap tourism data where possible

Since we're directly involved with stakeholders who represent businesses in the tourism industry, this project would be a good opportunity to use our stakeholders' help in soliciting and updating information for tourism related businesses and services in OpenStreetMap.

Technology assessment

In the segment, we describe our technological capacity needed for the work of C2M2 Kathmandu Hub.

Tools for data collection

For conducting surveys, we plan to use KoboCollect or OnaData. For collecting OSM data on the ground, we will be using either OSMTracker for Android or designing a special ground data collection survey in KoboCollect. For processing collected geospatial information, we plan on using the Java OpenStreetMap (JOSM) tool.

Tools for data organization and documentation

We have created the [c2m2-asia organization account on GitHub](#), through which we plan to share code and digitized, machine-readable data (shapefiles, CSVs) that we encounter or create through the C2M2 Kathmandu Project. Currently the following repositories already exist:

1. [kathmandu-hub-data](#): This repository aims to serve as the single point for consolidate, digitize, index and organize all data collected or created by the Kathmandu Hub.
2. [kathmandu-hub-osm-analysis](#): This project contains Python scripts to check OSM data completeness for tourism amenities in Kathmandu. Although the code presently focuses on Kathmandu Valley, it can be modified easily to conduct similar analyses for all OSM amenities in any part of the world.

Tools for analysis

We plan to conduct analysis of survey and geospatial data using either the a) R programming language, or b) Python. Regardless of our choice, we will document our code by making re-executable notebooks in Markdown or Jupyter Notebooks respectively. Additionally, for quick analysis and insight generation from geospatial data, we will be using Carto Studio.

Tools for dissemination

A range of tools and platforms will be used for disseminating project outputs.

GitHub

All of our code and digitized-data will be made available through different repositories in the [c2m2-asia organization account on GitHub](#).

Carto Studio

For quick analysis and insight generation from geospatial data, we will be using Carto Studio. Currently the following maps have already been produced as part of our data assessment exercise:

1. [Hotels and guest houses in Kathmandu Valley](#)
2. [Travel Operators in Kathmandu Valley](#)

Web applications

During the later stages of the project, we will also be working to share results and visualizations from our survey through web-based dashboards and visualizations. For this, we plan to leverage KLL's technical in-house expertise in designing and developing web-based tools.

Annex I: Important data and documents gathered during data assessment

As the name suggests, this section lists down sources of tourism and non-tourism that helped improve our understanding of the tourism sector in Nepal.

Reports and publications from government bodies

With regards to tourism information, government bodies such as Nepal Tourism Board and Ministry of Culture Tourism and Civil Aviation are the biggest regular contributor to national tourism statistics. In an effort to provide guidance to those navigating Nepal's tourism sector for future studies, in this section, we highlight some important reports and documents that provide valuable insight into the same.

Nepal Tourism Statistics 2019

Time-series data for national level indicators around the Nepali tourism industry is available in this report released by the Ministry of Culture, Tourism and Civil Aviation. It contains year-on-year statistics on tourist arrivals, length of stay, purpose of visit, trekking and expedition, pilgrimage, income generation, flight and passenger movement, tourism businesses, tourism education, and tourism incidents which, in some cases, date back to as early as 1964. The time-series data is publicly available in the form of a PDF report. As a result, it is not machine readable.

Annual report from ministry of culture and tourism

The ministry is mandated to produce quarterly and annual reports that outline financial and infrastructural targets and progress. The most recent annual report, which was published on July 2020 provides an overview of the ministry's budget and expenditure on government backed tourism project, fiscal and non-fiscal indicators of tourism (e.g., annual revenue from tourism, etc.) along with targets for said indicators and progress on the same.

Studies during the Covid-19 pandemic

TRTF Survey on “Industry’s Preparedness for Restarting Tourism”

The Tourism Recovery Task Force (TRTF) conducted an industry preparedness survey that focused on investigating the adoption of health, hygiene, and sanitation protocols in hotels as well as travel and tour operators in the country. Using a web-based survey on Google Forms the team was able to gather data from 55 tourism hospitality businesses and 205 travel and tour operators around their preparedness with regards to keeping in place health, hygiene, and sanitation (HHS) practices for operating businesses during the pandemic.

UNDP/IIDS report on “Rapid Assessment of Socio-Economic Impact of COVID19 in Nepal”

While not specific to the tourism industry, the study funded by UNDP uses a survey-based approach to understand the impacts of Covid19 from a socioeconomic perspective. The report was helpful in guiding our factor map exercise, providing useful insight into the nature of impact and different coping strategies used by businesses and the workforce following the pandemic.

Other data

Hotels interested in quarantine

Hotel Association of Nepal solicited information from its member organizations around their willingness to serve as quarantine facilities. Information for 49 hotels, including available bed capacity has been digitized.

Publicly available tourism data on OpenStreetMap

[As shown by our analysis](#), OpenStreetMap is a useful source of geospatial information around tourism businesses.

Annex 2: Raw table from the data cataloging exercise

Local Dataset	Data Source	Data Type	Granularity (aggregated vs. raw data)	Time bucket (pre or post pandemic)	Measured methodologies	Frequency	Specific to tourism?	Study focus	Organization type
ALLOCATION OF STUDY SAMPLE BY DISTRICT	Rapid Assessment of Socio Economic Impact of COVID19 in Nepal - IIDS/UNDP	Tabular	Aggregated	During the COVID crisis	Survey	One-off exercise	General	Workforce	Studies by universities or NGO
SECTORS AT RISK GLOBALLY WITH SPECIAL FOCUS ON NEPAL	Rapid Assessment of Socio Economic Impact of COVID19 in Nepal - IIDS/UNDP	Tabular	Aggregated	Pre-outbreak	Analysis	One-off exercise	General	Industries	Studies by universities or NGO
State of the tourism industry	Rapid Assessment of Socio Economic Impact of COVID19 in Nepal - IIDS/UNDP	Tabular	Aggregated	Pre-outbreak	Standard government process (immigration, permits, etc.)	Yearly	Specific to tourism	Tourist Activity	Government
EMPLOYMENT BY SEX IN TOURISM SUBSECTORS	Rapid Assessment of Socio Economic Impact of COVID19 in Nepal - IIDS/UNDP	Graph	Aggregated	Pre-outbreak	Survey	One-off exercise	Specific to tourism	Workforce	Studies by universities or NGO
SEVERITY OF IMPACT OF COVID-19 BY GENDER	Rapid Assessment of Socio Economic Impact of COVID19 in Nepal - IIDS/UNDP	Tabular (survey data)	Aggregated	During the COVID crisis	Survey	One-off exercise	General	Workforce	Studies by universities or NGO
COPING STRATEGY DURING THE LOCKDOWN BY GENDER (IN PERCENT)	Rapid Assessment of Socio Economic Impact of COVID19 in Nepal - IIDS/UNDP	Tabular (survey data)	Aggregated	During the COVID crisis	Survey	One-off exercise	General	Workforce	Studies by universities or NGO
TOP THREE SUPPORTS RATED BY RESPONDENTS DURING AND AFTER LOCKDOWN, BY GENDER	Rapid Assessment of Socio Economic Impact of COVID19 in Nepal - IIDS/UNDP	Tabular (survey data)	Aggregated	During the COVID crisis	Survey	One-off exercise	General	Workforce	Studies by universities or NGO

DISTRIBUTION OF RESPONDENTS ACROSS PROVINCE BY TYPE OF BUSINESS (PERCENT)	Rapid Assessment of Socio Economic Impact of COVID19 in Nepal - IIDS/UNDP	Tabular (survey data)	Aggregated	During the COVID crisis	Survey	One-off exercise	General	Workforce	Studies by universities or NGO
STATUS OF BUSINESS START-UP AND OPERATION BY PROVINCE	Rapid Assessment of Socio Economic Impact of COVID19 in Nepal - IIDS/UNDP	Tabular (survey data)	Aggregated	During the COVID crisis	Survey	One-off exercise	General	Businesses	Studies by universities or NGO
AVERAGE GROSS SALES/REVENUE AND BUSINESS EXPENSES A MONTH, BY PROVINCE	Rapid Assessment of Socio Economic Impact of COVID19 in Nepal - IIDS/UNDP	Tabular (survey data)	Aggregated	During the COVID crisis	Survey	One-off exercise	General	Businesses	Studies by universities or NGO
STRATEGIES TO SUSTAIN BUSINESS DURING LOCK-DOWN	Rapid Assessment of Socio Economic Impact of COVID19 in Nepal - IIDS/UNDP	Tabular (survey data)	Aggregated	During the COVID crisis	Survey	One-off exercise	General	Businesses	Studies by universities or NGO
SUMMARY OF IMPACT OF LOCK-DOWN ON BUSINESSES	Rapid Assessment of Socio Economic Impact of COVID19 in Nepal - IIDS/UNDP	Tabular (survey data)	Aggregated	During the COVID crisis	Survey	One-off exercise	General	Businesses	Studies by universities or NGO
CHOICE OF STRATEGY TO COPE UP FROM THE ECONOMIC SHOCK	Rapid Assessment of Socio Economic Impact of COVID19 in Nepal - IIDS/UNDP	Tabular (survey data)	Aggregated	During the COVID crisis	Survey	One-off exercise	General	Businesses	Studies by universities or NGO
JOB LOSS AND PAYMENT OF SALARY BY GENDER	Rapid Assessment of Socio Economic Impact of COVID19 in Nepal - IIDS/UNDP	Tabular (survey data)	Aggregated	During the COVID crisis	Survey	One-off exercise	General	Workforce	Studies by universities or NGO
Tourist arrivals by mode of travel	Nepal Tourism Facts 2019, Ministry of Culture Tourism and Civil Aviation	Tabular	Aggregated	Pre-outbreak	Standard government process (immigration, permits, etc.)	Yearly	Specific to tourism	Tourist Activity	Government
Tourist arrivals by gender	Nepal Tourism Facts 2019, Ministry of Culture Tourism and Civil Aviation	Tabular	Aggregated	Pre-outbreak	Standard government process (immigration, permits, etc.)	Yearly	Specific to tourism	Tourist Activity	Government

Tourists arrival by age group	Nepal Tourism Facts 2019, Ministry of Culture Tourism and Civil Aviation	Tabular	Aggregated	Pre-outbreak	Standard government process (immigration, permits, etc.)	Yearly	Specific to tourism	Tourist Activity	Government
Top five source markets	Nepal Tourism Facts 2019, Ministry of Culture Tourism and Civil Aviation	Tabular	Aggregated	Pre-outbreak	Standard government process (immigration, permits, etc.)	Yearly	Specific to tourism	Source markets	Government
Top five airlines	Nepal Tourism Facts 2019, Ministry of Culture Tourism and Civil Aviation	Tabular	Aggregated	Pre-outbreak	Standard government process (immigration, permits, etc.)	Yearly	Specific to tourism	Tourist activity	Government
Tourists arrival by purpose of visit	Nepal Tourism Facts 2019, Ministry of Culture Tourism and Civil Aviation	Tabular	Aggregated	Pre-outbreak	Standard government process (immigration, permits, etc.)	Yearly	Specific to tourism	Tourist Activity	Government
Distribution of tourists by tourism destination	Nepal Tourism Facts 2019, Ministry of Culture Tourism and Civil Aviation	Tabular	Aggregated	Pre-outbreak	Standard government process (immigration, permits, etc.)	Yearly	Specific to tourism	Tourist Activity	Government
Year on year tourist arrivals by mode of travel	Nepal Tourism Facts 2019, Ministry of Culture Tourism and Civil Aviation	Chart	Aggregated	Pre-outbreak	Standard government process (immigration, permits, etc.)	Yearly	Specific to tourism	Tourist Activity	Government
Tourist arrivals by month	Nepal Tourism Facts 2019, Ministry of Culture Tourism and Civil Aviation	Chart	Aggregated	Pre-outbreak	Standard government process (immigration, permits, etc.)	Monthly	Specific to tourism	Tourist Activity	Government
Tourist visits by mountain (above 6500m)	Nepal Tourism Facts 2019, Ministry of Culture Tourism and Civil Aviation	Tabular	Aggregated	Pre-outbreak	Standard government process (immigration, permits, etc.)	Yearly	Specific to tourism	Tourist Activity	Government
Tourist visits by mountain (below 6500m)	Nepal Tourism Facts 2019, Ministry of Culture Tourism and Civil Aviation	Tabular	Aggregated	Pre-outbreak	Standard government process (immigration, permits, etc.)	Yearly	Specific to tourism	Tourist Activity	Government
Count of teams, Counts of people, and total revenue from mountain expeditions	Nepal Tourism Facts 2019, Ministry of Culture Tourism and Civil Aviation	Tabular	Aggregated	Pre-outbreak	Standard government process (immigration, permits, etc.)	Yearly	Specific to tourism	Tourism Businesses	Government

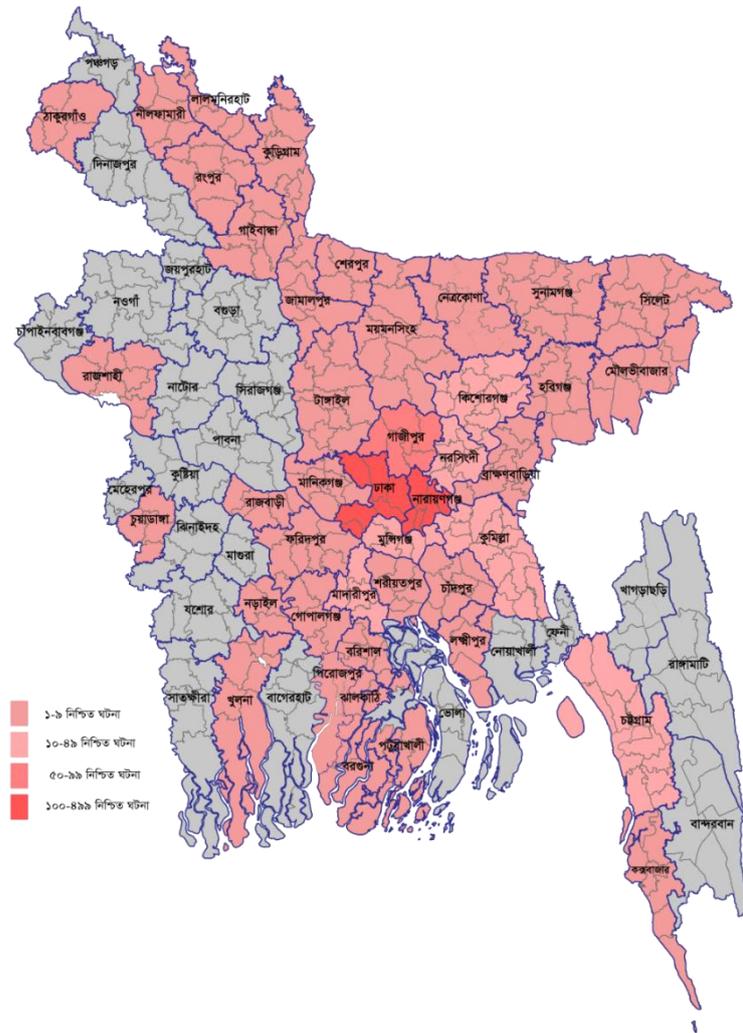
Gross foreign exchange earnings from tourism in Nepal	Nepal Tourism Facts 2019, Ministry of Culture Tourism and Civil Aviation	Chart	Aggregated	Pre-outbreak	Standard government process (immigration, permits, etc.)	Yearly	Specific to tourism	Tourism Revenue	Government
Distribution of hotels and beds by type of hotel	Nepal Tourism Facts 2019, Ministry of Culture Tourism and Civil Aviation	Tabular	Aggregated	Pre-outbreak		Yearly	Specific to tourism	Tourism Businesses	Government
Distribution of tourism businesses by type	Nepal Tourism Facts 2019, Ministry of Culture Tourism and Civil Aviation	Tabular	Aggregated	Pre-outbreak		Yearly	Specific to tourism	Tourism Businesses	Government
Indicators for civil aviation	Nepal Tourism Facts 2019, Ministry of Culture Tourism and Civil Aviation	Tabular	Aggregated	Pre-outbreak	Standard government process (immigration, permits, etc.)	Yearly	Specific to tourism	Air travel	Government
Monthly Distribution of visitors to Lumbini by country of origin	Nepal Tourism Facts 2019, Ministry of Culture Tourism and Civil Aviation	Tabular	Aggregated	Pre-outbreak	Standard government process (immigration, permits, etc.)	Monthly	Specific to tourism	Tourist Activity	Government
COVID-19 and Nepal	COVID-19 and Nepal A quick study of sectoral impacts and suggested way forward, South Asia Watch on Trade, Economics and Environment (SAWTEE)	Report	Aggregated	During the COVID crisis	Compiled from other sources	One-off exercise	Specific to tourism	Tourist Activity	INGO
Nepal Overview by the World Bank	World Bank Nepal	Text (numbers in writing)	Aggregated			Unknown	General	Economy	INGO
COVID-19 impact on Nepal's economy hits hardest informal sector	World Bank Nepal	Text (numbers in writing)	Aggregated			One-off exercise	General	Economy	INGO
Adopted Standard Safety (HHS) Protocols	Survey on Industry's Preparedness for restarting tourism, Tourism Revival Task Force	Chart (survey data)	Raw	During the COVID crisis	Survey	One-off exercise	Specific to tourism	Tourism Businesses	Special Task force

Compliance of Operation Procedures with the New Safety Protocols	Survey on Industry's Preparedness for restarting tourism, Tourism Revival Task Force	Chart (survey data)	Raw	During the COVID crisis	Survey	One-off exercise	Specific to tourism	Tourism Businesses	Special Task force
Management of Dedicated HHS Desk or Personnel to look after the Issues related to COVID-19	Survey on Industry's Preparedness for restarting tourism, Tourism Revival Task Force	Chart (survey data)	Raw	During the COVID crisis	Survey	One-off exercise	Specific to tourism	Tourism Businesses	Special Task force
Contract on Safety Standards with other Partners / Service providers	Survey on Industry's Preparedness for restarting tourism, Tourism Revival Task Force	Chart (survey data)	Raw	During the COVID crisis	Survey	One-off exercise	Specific to tourism	Tourism Businesses	Special Task force
Trainings/Re-trainings to Service Staffs about HHS Protocols	Survey on Industry's Preparedness for restarting tourism, Tourism Revival Task Force	Chart (survey data)	Raw	During the COVID crisis	Survey	One-off exercise	Specific to tourism	Tourism Businesses	Special Task force
Source of Training [In-house / Outside Trainer]	Survey on Industry's Preparedness for restarting tourism, Tourism Revival Task Force	Chart (survey data)	Raw	During the COVID crisis	Survey	One-off exercise	Specific to tourism	Tourism Businesses	Special Task force
Companies Seeking for Training and Workshops	Survey on Industry's Preparedness for restarting tourism, Tourism Revival Task Force	Chart (survey data)	Raw	During the COVID crisis	Survey	One-off exercise	Specific to tourism	Tourism Businesses	Special Task force
Hospitality sector - Using Safety signage and or Hi-Tech-Low Touch' services	Survey on Industry's Preparedness for restarting tourism, Tourism Revival Task Force	Chart (survey data)	Raw	During the COVID crisis	Survey	One-off exercise	Specific to tourism	Tourism Businesses	Special Task force

Travel, Tour, Trek & Adventure Operators-Undertaking Crisis Communication Strategy	Survey on Industry's Preparedness for restarting tourism, Tourism Revival Task Force	Chart (survey data)	Raw	During the COVID crisis	Survey	One-off exercise	Specific to tourism	Tourism Businesses	Special Task force
Preparation of Staycation or Incentive Packages to promote Domestic Tourism	Survey on Industry's Preparedness for restarting tourism, Tourism Revival Task Force	Chart (survey data)	Raw	During the COVID crisis	Survey	One-off exercise	Specific to tourism	Tourism Businesses	Special Task force
Preparation of Legal-Standardized Waiver system or Disclaimer	Survey on Industry's Preparedness for restarting tourism, Tourism Revival Task Force	Chart (survey data)	Raw	During the COVID crisis	Survey	One-off exercise	Specific to tourism	Tourism Businesses	Special Task force
Country wide employment in the tourism sector as share of total employment and share of informality in tourism employment, latest available year (per cent)	COVID-19 and employment in the tourism sector: Impact and response in the Asia and the Pacific (ILO)	Chart	Aggregated	Unknown	Unknown	Unknown	Specific to tourism	Tourism employment	INGO
Employment in the tourism sector as share of total employment by sex, latest available year (per cent)	COVID-19 and employment in the tourism sector: Impact and response in the Asia and the Pacific (ILO)	Chart	Aggregated	Unknown	Unknown	Unknown	Specific to tourism	Tourism employment	INGO
Distribution of employment in the tourism sector by sub-sectors, latest available year (per cent)	COVID-19 and employment in the tourism sector: Impact and response in the Asia and the Pacific (ILO)	Table	Aggregated	Unknown	Unknown	Unknown	Specific to tourism	Tourism employment	INGO
Tourism indicators for fiscal year 2076/77	Annual progress review 2076/77, Ministry of Culture Tourism and Civil Aviation	Report	Aggregated	Pre-outbreak	Standard government process (immigration, permits, etc.)	Yearly	Specific to tourism	Tourist Activity	Government

Budget and expenditure details of national pride projects, including targets and performance against established targets	Annual progress review 2076/77, Ministry of Culture Tourism and Civil Aviation	Report	Aggregated	Pre-outbreak	Standard government process (immigration, permits, etc.)	Yearly	Specific to tourism	Tourism Infrastructure and Finances	Government
Budget and expenditure details of govt. held tourism bodies, including targets and performance against established targets	Annual progress review 2076/77, Ministry of Culture Tourism and Civil Aviation	Report	Aggregated	Pre-outbreak	Standard government process (immigration, permits, etc.)	Yearly	Specific to tourism	Tourism Infrastructure and Finances	Government
Count of daily evacuated tourists	NTB Annual Progress Report 2076/77	Chart	Aggregated	Pre-outbreak	Standard government process (immigration, permits, etc.)	One-off exercise	Specific to tourism	Government response	Government
Count of evacuated tourists by location	NTB Annual Progress Report 2076/78	Chart	Aggregated	Pre-outbreak	Standard government process (immigration, permits, etc.)	One-off exercise	Specific to tourism	Government response	Government
Hotels in Kathmandu Valley	OpenStreetMap	Geospatial	Raw	Pre-outbreak	Volunteered geographic information	Intermittent	Specific to tourism	Tourism Businesses	Citizen volunteers in OSM
Restaurants in Kathmandu Valley	OpenStreetMap	Geospatial	Raw	Pre-outbreak	Volunteered geographic information	Intermittent	Specific to tourism	Tourism Businesses	Citizen volunteers in OSM
Guest Houses in Kathmandu Valley	OpenStreetMap	Geospatial	Raw	Pre-outbreak	Volunteered geographic information	Intermittent	Specific to tourism	Tourism Businesses	Citizen volunteers in OSM
Cafes in Kathmandu Valley	OpenStreetMap	Geospatial	Raw	Pre-outbreak	Volunteered geographic information	Intermittent	Specific to tourism	Tourism Businesses	Citizen volunteers in OSM
Travel and tour operators in Kathmandu Valley	OpenStreetMap	Geospatial	Raw	Pre-outbreak	Volunteered geographic information	Intermittent	Specific to tourism	Tourism Businesses	Citizen volunteers in OSM

BASELINE ASSESSMENT FOR CITIES' COVID MITIGATION MAPPING PROJECT



Source: [Wikimedia Commons](#)



Bangladesh Open Innovation Lab (BOIL)

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Acronyms:

ADB	Asian Development Bank
ASK	Ain O Salish Kendra
BBS	Bangladesh Bureau of Statistics
BGMEA	Bangladesh Garment Manufacturers and Exporters Association
BIDS	Bangladesh Institute of Development Studies
BRAC	Bangladesh Rural Advancement Committee
CBO	Community Based Organization
CMSD	Central Medical Storage Depot
COVID	Corona Virus Disease
CPD	Center for Policy Dialogue
CSDRS	Civil Surgeon District Reserve Storage
DGHS	Directorate General of Health Services
FGD	Focus Group Discussion
FY	Fiscal Year
GoB	Government of Bangladesh
GDP	Gross Domestic Product
ICR	Integrated Control Room
ILO	International Labor Organization
IMF	International Monetary Fund
KII	Key Informant Interview
LIC	Low Income Settlements
MoF	Ministry of Finance
MOHFW	Ministry of Health and Family Welfare
NAWGB	Need Assessment Working Group Bangladesh
NBR	National Board of Revenue
NGO	Non-Government Organizations
OSM	OpenStreetMap
PATA	The Pacific Asia Travel Association
PPI	Price Per Index
RMG	Ready Made Garments
SANEM	South Asian Network on Economic Modeling
UN	United Nations
UNTWO	United Nations World Tourism Organization
WASH	Water, Sanitation and Hygiene
WB	World Bank
WTO	World Trade Organization
WTTC	World Travel & Tourism Council

Overview

The emergence of COVID-19 has shattered the whole world with its disastrous effect. It's a highly contagious disease that has made the concern as it can easily transfer from one person to another like a snowball effect. Bangladesh, as well as other countries, has been affected by it; the impact of which is visible everywhere. Bangladesh discovered the first case of COVID-19 on March 08, 2020.

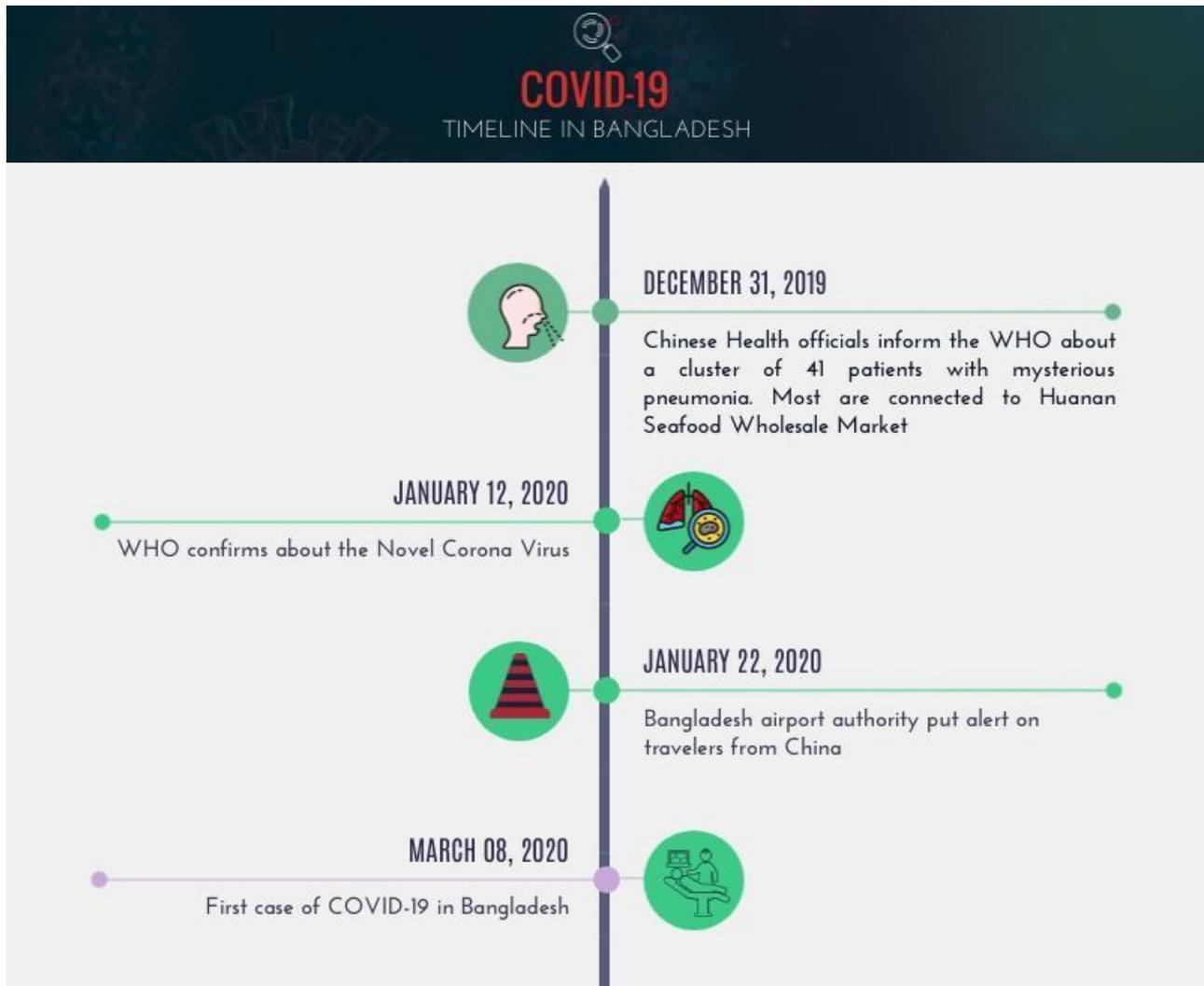
The nationwide lockdowns in Bangladesh resulted in the loss of millions of people's jobs caused by a series of government COVID-19 containment measures and imposed lockdowns, which shut down businesses and domestic economic activities across the country. This led to a significant rise in the poverty rate and a projected shortfall in the country's GDP compared to the previous years. In the last ten years, GDP growth for Bangladesh improved, especially in 2019, when the GDP was estimated to have reached 7.9% and ended up reaching 8.2. Before the pandemic, in 2020 the Bangladesh GDP is projected to be over 7.5 but due to economic downturns resulting from COVID-19 pandemic economic lockdowns it remained around 3.8% ([IMF 06/2020](#)).

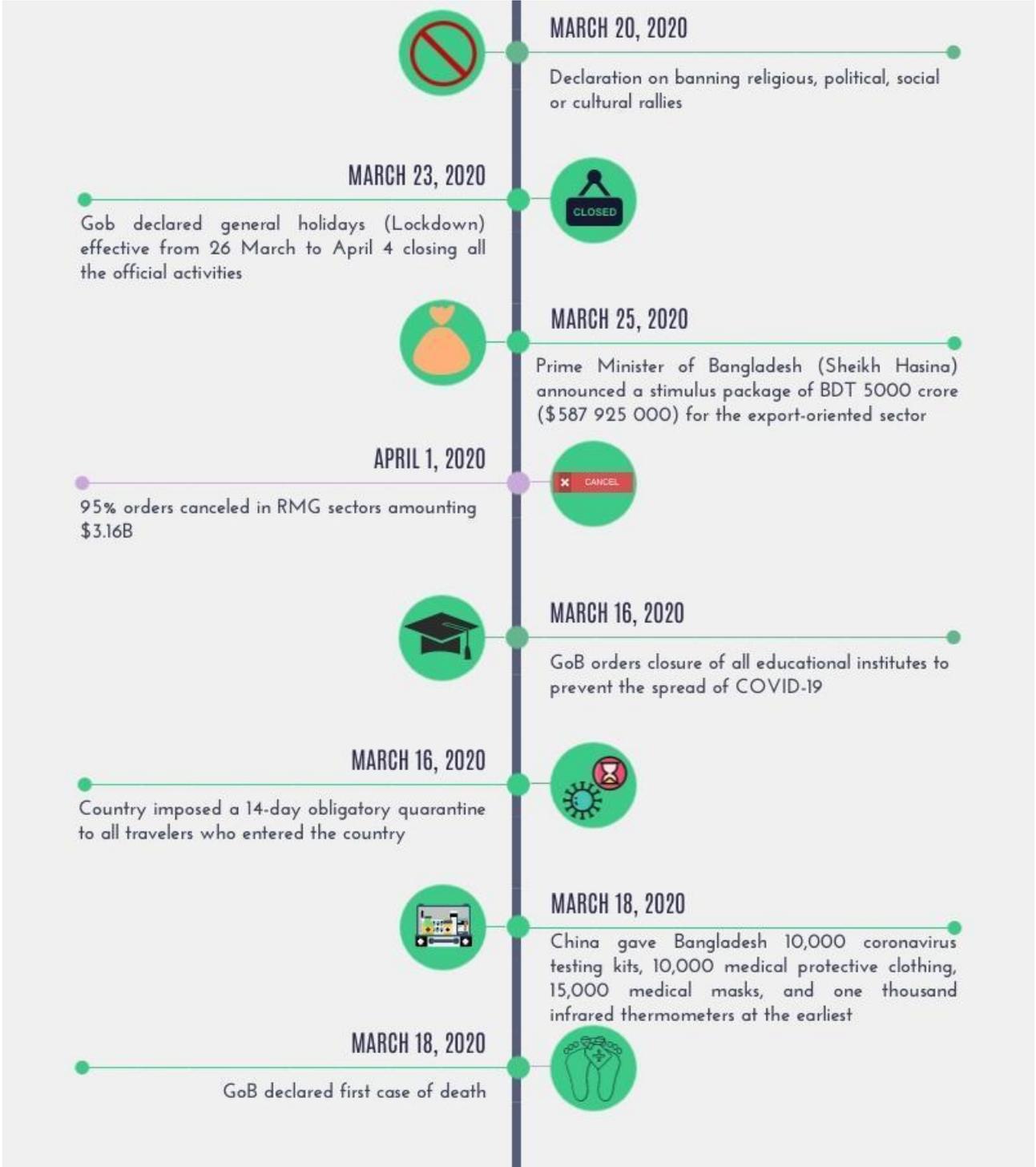
For the last 15 years, Bangladesh's poverty rate had steadily reduced from 40 percent in 2005 to 20.5 percent in 2019. Amidst the COVID-19 socio-economic situation, the General Economic Division's estimation shows Bangladesh's poverty rate has risen to 29.5% as of June 2020 (a 9% increase from 20.5% in the 2018/2019 fiscal year). These latest available predictions show a decline in Bangladesh's socio-economic growth, considering that the poverty rate declined from 21.8% in the 2017-18 fiscal year to 20.5% at the end of 2018-19 fiscal year ([Dhaka tribune 08/2020](#); [BBS 2019](#)). The challenge with Bangladesh's socio-economic situation is that the High GDP growth rate has not effectively fostered faster poverty reduction ([World Bank Group 2019](#)).

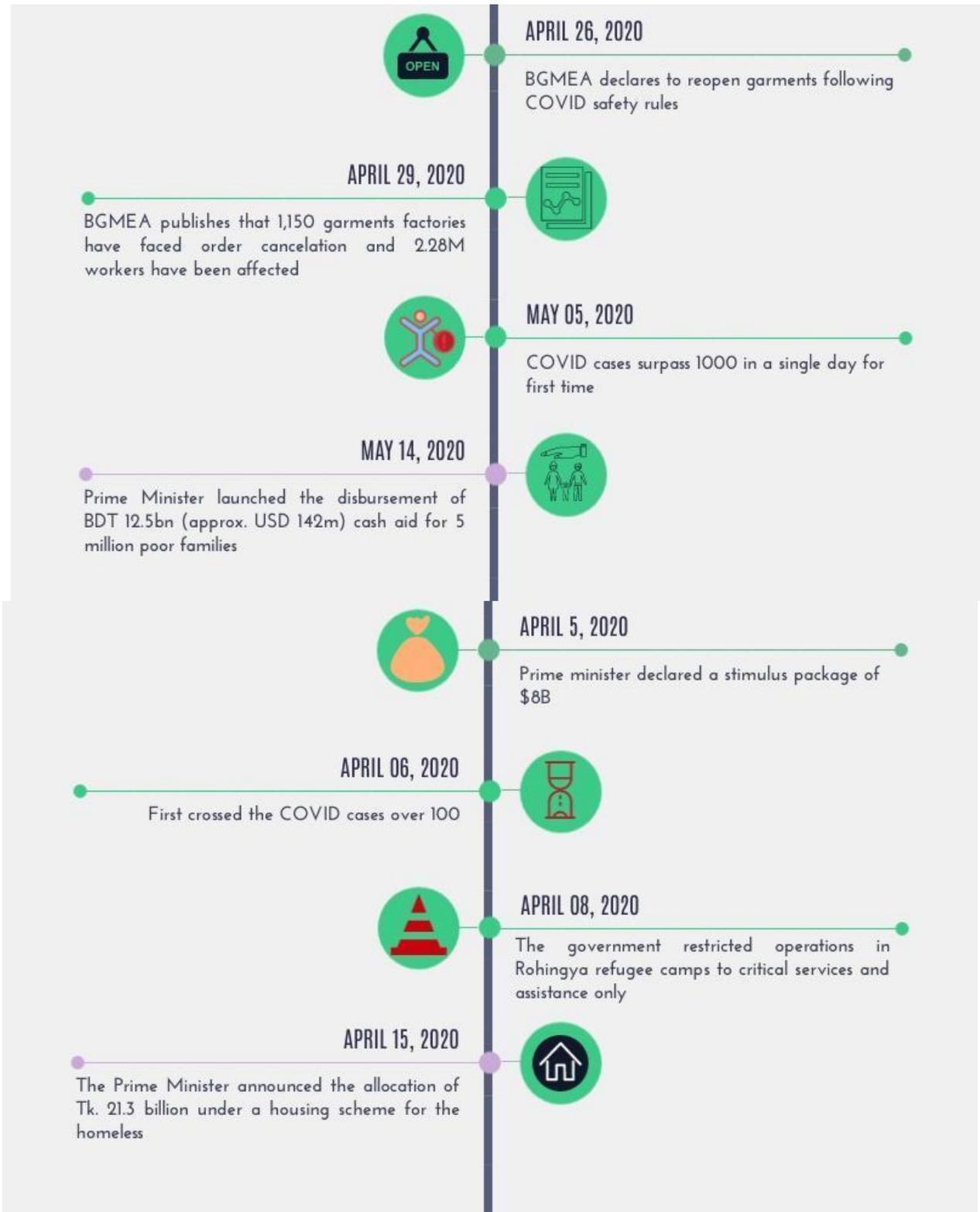
The aftermath of the COVID-19 pandemic has a localized impact in Bangladesh as millions of people are expected to be pushed back into extreme poverty in 2020, especially people working in the informal economy, whose incomes dropped significantly since the start of the pandemic. This will make the achievement of Sustainable Development Goals (SDG) in Bangladesh even more challenging (SDG Report 2020).

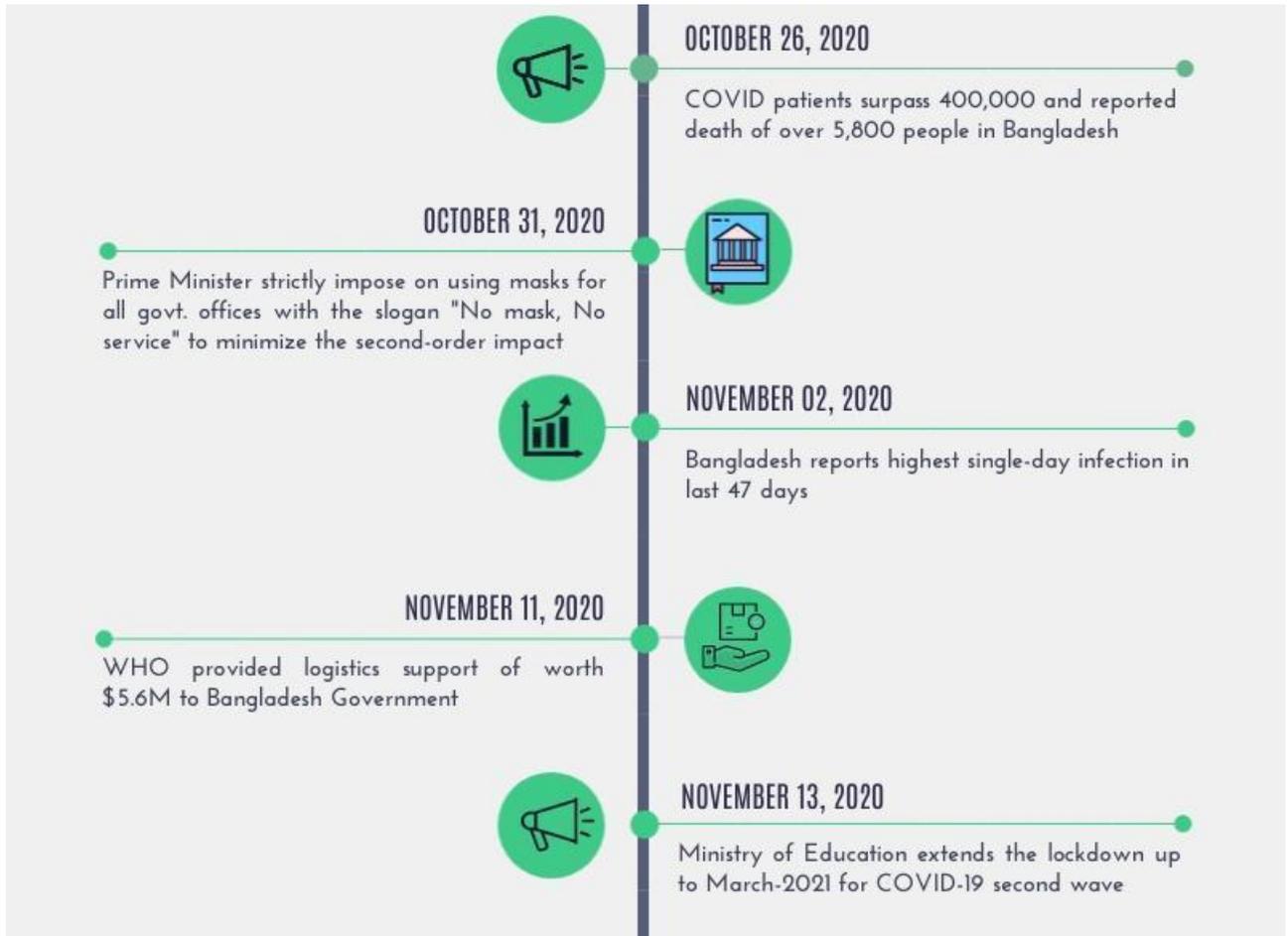
1. COVID-19 journey in Bangladesh:

At the initial stage, the growth curve of COVID cases was slow but it faced a sudden increase in April. Several major actions and activities have come forward in response to it. A short infographic journey on COVID-19 has been outlined in timestamp format:











2. Statistical figures on COVID-19: As of January 1-2021

People tested	Confirmed Cases	People Recovered	Total Death	Total People Contacted (Hotline)	Affected in Mirpur area	Global affected
3,239,701	514,500	457,572	7,576	23.2 M (Approx.)	4232	81,947,503

Figure 2: Showing general stats of COVID-19 situation (Source: DGHS)

2.2 Central statistics of logistics (Health department)



Figure 3: Currently available stocks of emergency equipment (MOHFW)

Similar COVID-19 commodities are grouped and the total quantities are displayed. All the Figures displayed here are shown on the cumulative Figures in its category reserved in different offices. ALL store stock, or stock available at Central Medical Storage Depot (CMSD), Directorate General of Health Services Integrated Control Room (DGHS ICR), COVID-19 WB project stock, COVID-19 ADB project stock, or Civil Surgeon District Reserve Store (CS DRS) stock.

2.3 COVID-19 Trajectory:

The COVID-19 trends statistics have been prepared drawing data from the DGHS daily update report.

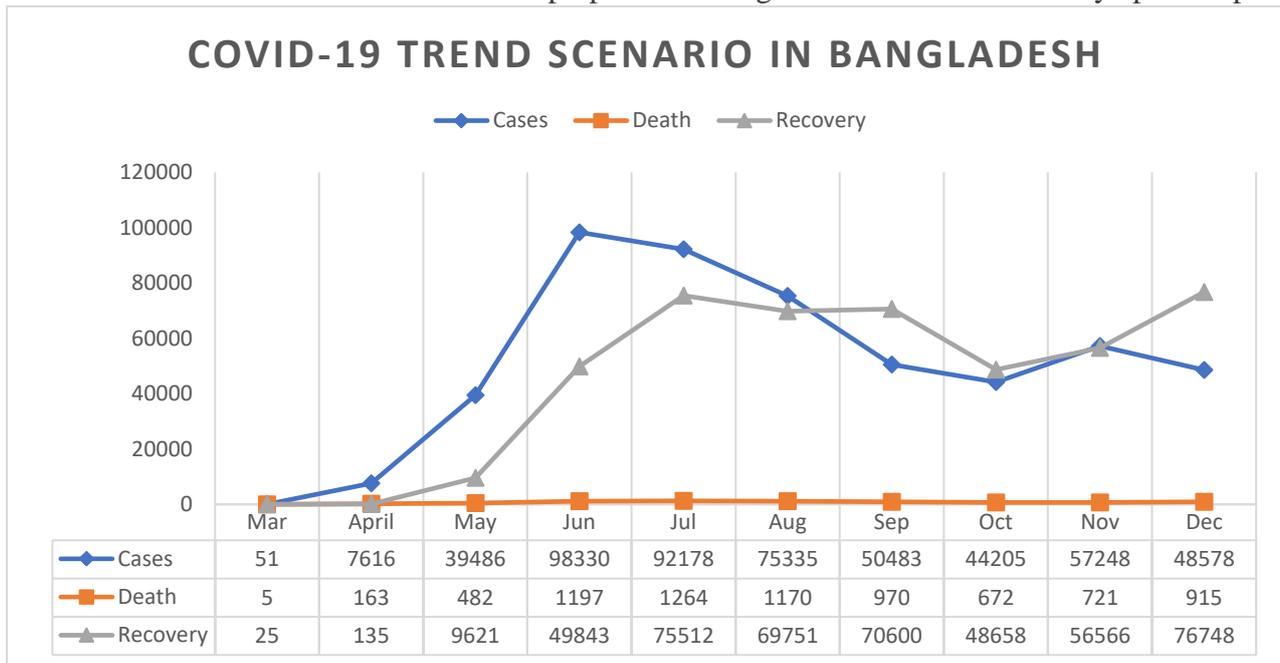
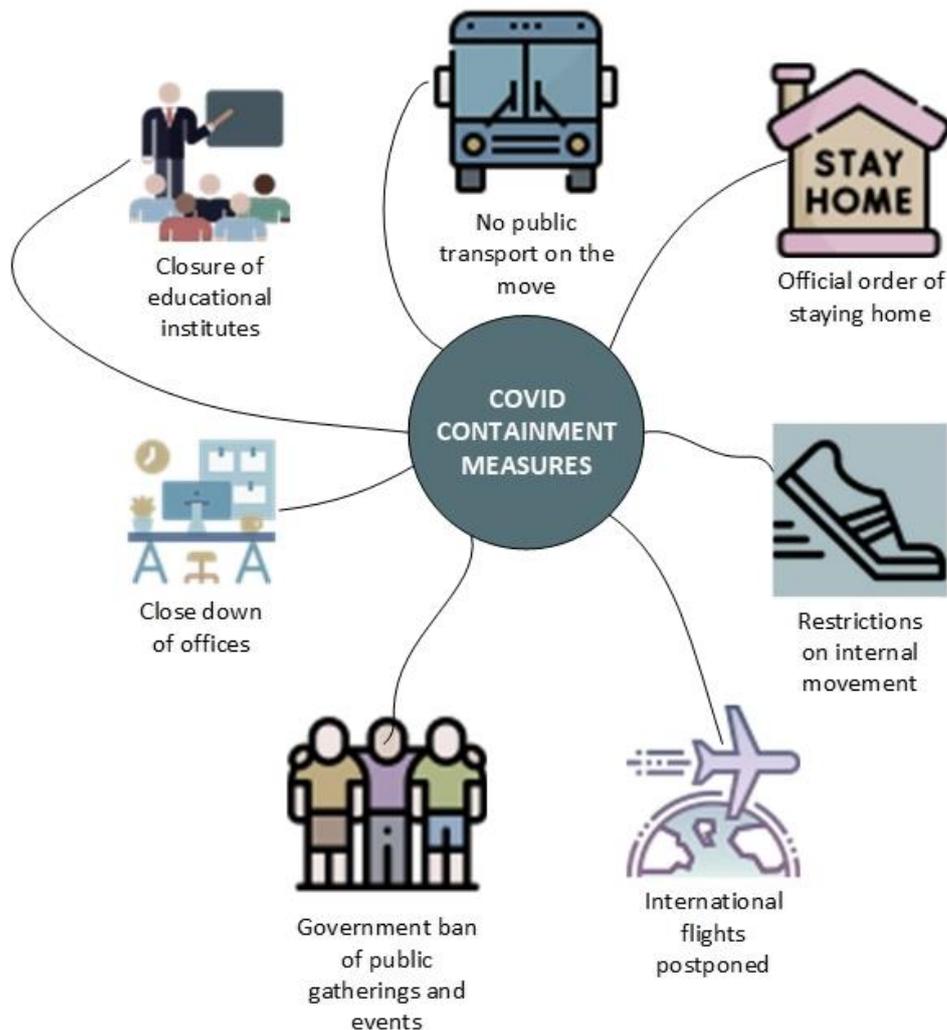


Figure 4: Showing the comparative COVID-19 scenario in Bangladesh (Customized from DGHS)

The graph represents a comparative scenario among monthly cases, death count, and recovery. The highest COVID-19 cases prevailed during the time of June and July and shows a declining trend during December. Even the death rate was comparatively high during the high case detection time. But considering the global death toll, Bangladesh surprisingly faced lower death cases.

2.4 Containment Measures:

The pandemic due to the COVID-19 does not only impose health concerns but also a threat to life and livelihoods all over the country. The Bangladesh Government has been monitoring the situation from the very beginning and had decided to take immediate actions when it got detected in Bangladesh. The government declared public holidays so that people do not get out of their homes. Raising public awareness on hand hygiene, social distancing, respiratory hygiene, wearing masks, avoidance of public gatherings, campaign against myths, fake news, and stigma was also part of their actions. (Source) Government also imposed strict rules so that people abide by the guidelines. GoB outlined 27 guidelines framework in line with COVID-19 containment efficiently. (source) All the educational institutes were closed immediately and remain closed. From March to June, most of the public transport was not on the streets, and afterward, when they resumed, they were permitted on the condition of carrying under 1 passenger per seat criteria. Being a country having the majority number of people Muslim, even during the biggest Muslim festivals, such as EID, people were not permitted to gather for prayers. (source)



2.5 Health Management Challenges:

Being a densely populated country, Bangladesh has faced tremendous challenges while managing the COVID-19 emergency. According to cross-country pieces of evidence, the extreme steps at the very beginning adopted by the governments were the most successful ones in pulling down the corona cases. Preliminarily there was a great shortage of stocks of emergency equipment and testing facilities. Even the hospitals and medical institutes prepared for the situation were very few in numbers. On the other hand, it involved several management weaknesses. [\(source\)](#) The existing healthcare infrastructure and the available medical equipment are not adequate even in ordinary situations, let alone for facing the COVID-19 pandemic. Medical services for the general people were very poor and adding to that, doctors showed an unwillingness to serve as they were not provided with enough safety equipment. According to the Bangladesh Bureau of Statistics (BBS), as of 2017, there was one hospital bed for every 1,196 individuals in the country (BBS, 2019). Data from the Bangladesh Health Facility Survey 2017, shows that among the healthcare facilities in Bangladesh, 5.1 percent had emergency transport, 21.5 percent had alcohol-based disinfectants, 27.5 percent had medical masks, 28 percent had all basic equipment, 34.5 percent had lab facilities, 43.1 percent had regular electricity, 55.1 percent had soap and water, 83.7 percent had paracetamol oral suspension, 86.3 percent had thermometer, and 90.1 percent had improved water source, as of 2017. Moreover, People were mostly careless about the situation and following safety measures. [\(Source\)](#) Case management, case tracking, sampling, and testing situations were hazardous in some cases. [\(Source\)](#) Another major crisis occurred due to the contagious nature of the COVID-19, where the people who were sick normally could hardly get access to general medical support. A structured approach to managing the situation was also not present in many cases. [\(source\)](#)

3. Defining Vulnerable Population:

Being a contagious disease, COVID-19 has induced a multi-dimensional risk towards the human. According to the population census of 2011 [\(source\)](#), Dhaka city is considered as one of the most congested areas around the world with around 8500 people per sq. km. Population with high density is susceptible to different diseases as they cannot maintain fundamental health safety measures. According to the BRAC survey, [\(source\)](#) 95% of people have faced an income loss that minimized the consumption of necessary diets. In the low-income community, children grow with malnutrition that leads to low immunity as well as the elder one. In the urban setting, low-income people (floating, poor, new emerging poor) will face further challenges as they are at higher risk of joblessness and income decline. Most people lead their life on daily income with very low savings and remain highly vulnerable. According to NAWGB, Dhaka city is positioned in the first place in terms of exposure

to urban socio-economic vulnerability (source). The assessment has been done on the following indicators:

List of indicators used for ranking different social, physical, and economic conditions.	
Composite risk of exposure to COVID-19	Confirmed cases, quarantine, density, floating population, slum population, elderly population, safe wash practice
Critical urban professions	Slum population, floating shop owner, tea stall worker, rickshaw puller

Figure 6: List of Vulnerability Indicators

The vulnerability of the population is interlinked among several aspects of a community. the vulnerable population has defined considering several perspectives of socio-economic, demographic, and physical aspects.



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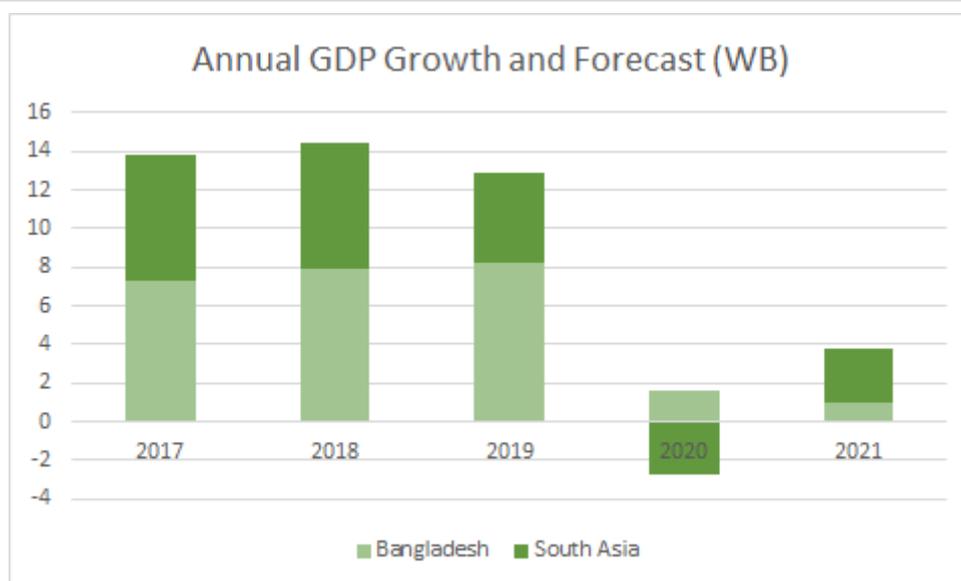
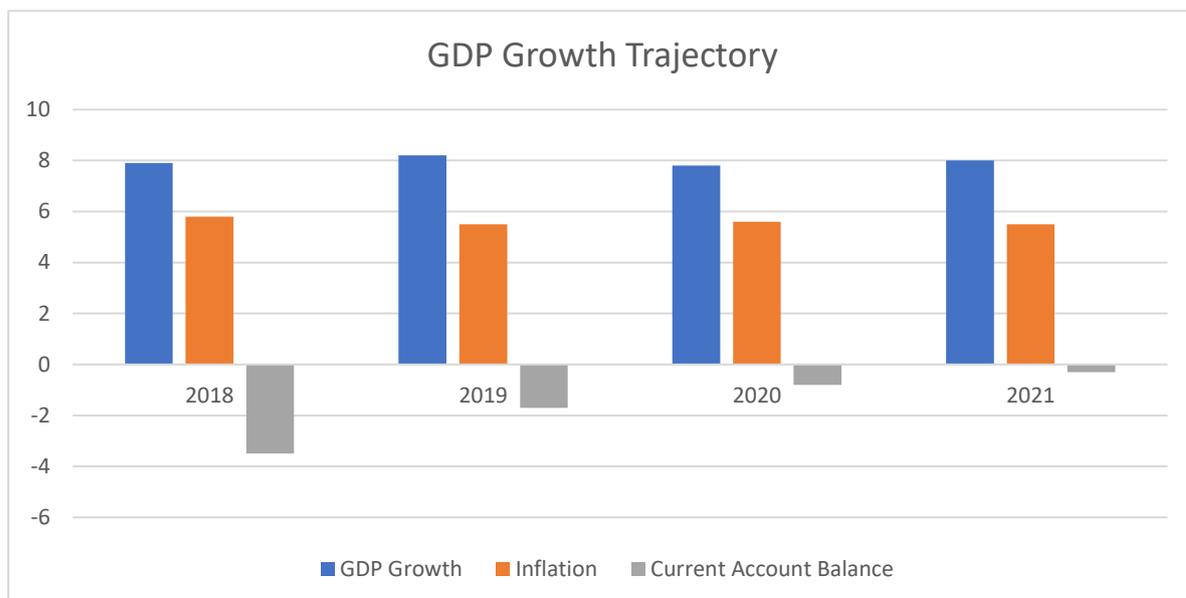
Figure 7: Vulnerability aspects in the LIC

4. Second-Order Impact of COVID-19 in Bangladesh: National Scale

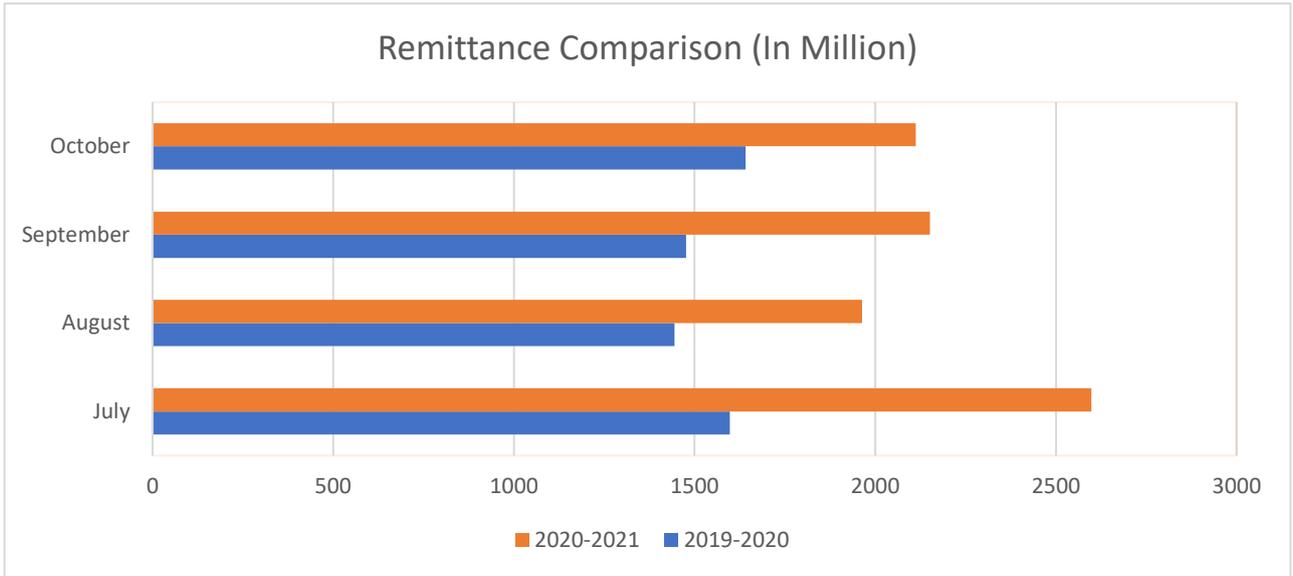
According to world demographic characteristics, South Asia is considered as one of the highly populated areas along with low-income levels. In the pandemic situations, even the developed countries found it challenging to manage the COVID situation; in that prospect, the South Asian region is highly vulnerable to its impact. Bangladesh, with the pressure of high population and low income, facing a continuous challenge in managing the situation with the second position in terms of corona affected people. Due to the containment measures around the globe, business operations have faced major challenges that have impacted other spheres of society. The pandemic has developed a multi-dimensional crisis and aggravated vulnerabilities towards the human. Containment measures such as quarantine, isolation, lockdown, social distancing have narrowed down economic activities on a large scale around the globe. The upsurging economic recession can surpass the negative intensity of the economy during the year 2020-2021. Bangladesh, along with other countries, is facing the challenges of it as a second-order aftermath. The second-order impact of the COVID-19 has been outlined based on several impacted areas such as GDP, RMG, Employment, Travel and Tourism, Export and Import, etc. at the national level.

4.1 GDP (Gross Domestic Product):

According to the Bangladesh Bureau of Statistics (BBS), Bangladesh has shown a smooth growth in terms of GDP. GDP growth increased from 7.9% to 8.2% for the fiscal year 2019 that ended up on 30th June 2019. BBS also outlined that GDP growth is 5.24% for 2019-20FY but it was 8.15% for the previous fiscal year. This growth rate was achieved when the global economy was contracting particularly when the developed countries' economy was expecting to contract 2.4% in 2020. The following data was represented in the pre-COVID-19 situation but during the lockdown situation, Bangladesh faced a major negative impact which has been projected by the World Bank.



While the per capita GDP of Bangladesh was projected with a growth of 4% for the fiscal year 2020 and reached \$1,888 while it is projected to plunge by 10.5% to 1,877 this year. [\(source\)](#) However, economists expressed concerns about the sustainability of the per capita GDP position given the low revenue-GDP ratio, government revenue expenditure, and purchasing power in Bangladesh. But in terms of Power Purchase Parity, Bangladesh is positioned just above Afghanistan and Nepal. According to the projection of the International Monetary Fund (IMF), Bangladesh will see an increase of 3.8% in GDP but there will be a decline in PPI by 2.9%. Bangladesh managed to maintain a positive curve in GDP as the Government decided to open the businesses during the time of June and there was a significant increase in inward remittance.[\(source\)](#)



According to the chart, there is a significant difference in terms of inward remittance which is maximum in July; just after when the lockdown situation was relaxed in Bangladesh. For every consecutive month, there is an increase in remittance amount compared to 2019 for the same months of 2020. Though during the lockdown, the economy faced a great shock it gradually improved at least not going negative.

4.2 Export-Import:

The world was already facing trade tension between the US and China; in the meantime, economic activities came to a stagnant situation when COVID-19 started to spread like a pandemic affecting the country's foreign trade. The pandemic has affected the foreign trade of every country around the

world as well as Bangladesh. The total export earnings decline by 16.93% than the previous FY. The total earnings from the export sector were the US \$40,535.04 million for the FY2018-19,

which is 10.55% higher than the previous fiscal year. But the earning is down to the US \$33,674.09

Table 6.3: Commodity-wise share of Export Earnings and Growth of Export Earnings

(Million US\$ Dollar)

Commodities	Export earnings				Percentage of Total Export		Growth***
	2017-18	2018-19*	2019-20**	2020-21	2018-19	2019-20	
A) Primary Commodities:	1338	1521	1318	3.65	3.75	3.91	-13.34
1. Raw Jute	156	112	130	0.43	0.28	0.39	15.97
2. Tea	3	3	3	0.01	0.01	0.01	4
3. Frozen Food	508	500	456	1.39	1.23	1.35	-8.77
4. Agricultural Products	381	437	472	1.04	1.08	1.4	7.98
5. Other Primary Commodities	290	469	257	0.79	1.16	0.76	-45.2
B) Manufactured Goods:	35330	39014	32356	96.35	96.25	96.09	-17.07
6. Jute Goods	870	704	752	2.37	1.74	2.23	6.88
7. Leather	183	165	98	0.5	0.41	0.29	-40.42
8. Petroleum Products	34	204	23	0.09	0.5	0.07	-88.49
9. Ready-made Garments (woven)	15426	17245	14041	42.07	42.54	41.7	-18.58
10. Knitwear	15189	16889	13908	41.42	41.67	41.3	-17.65
11. Chemical Products	151	205	199	0.41	0.51	0.59	-3
12. Shoe	241	272	277	0.66	0.67	0.82	1.89
13. Handicrafts	17	20	21	0.05	0.05	0.06	2.6
14. Engineering Products	356	341	293	0.97	0.84	0.87	-14.1
15. Other mfg. Products	2863.2	2969	2743	7.81	7.32	8.15	-7.61
Grand Total (A+B)	36668	40535	33674	100	100	100	-16.93

Source: Export Promotion Bureau. * Revised, **Provisional, ***2019-20 Over 2018-19

million which is 16.93% lower than the previous year. According to the MoF report, on a month-to-month basis, in March 2020 the export growth declined 18.21% in comparison to the same month previous year. In terms of the RMG sector, export growth slowed down 18.12% as many orders have been canceled or postponed.

The total import payment (C&F) for FY2018- 19 stood at 59,914.70 million, up 1.78 percent from the previous fiscal year. Imports in FY2019-20 stood at US\$ 54,784.70 million, down 8.56 percent over the previous fiscal year. Of this, imports of food grains and consumer goods increased by 7.76

percent and 5.38 percent, respectively, while imports of intermediate commodities and capital goods declined by 5.05 percent and 23.92 percent respectively.

Overall, the impact on the export-import sectors faced greater disruption in terms of order cancellation, postponement, transportation, and logistics. Many factories cannot produce their products to their full capacity as raw materials were scarce. When the business sectors faced the crisis

(In million US\$)								
Commodity	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20*
1. Major Primary Commodities	4075	5327	4477	4227	4725	7270	5430	5815
Rice	30	347	508	113	89	1605	115	22
Wheat	696	1118	983	949	1197	1494	1437	1651
Oil Seeds	242	508	374	534	432	571	796	1183
Crude Petroleum	1102	929	316	386	478	365	416	731
Cotton	2005	2425	2296	2245	2529	3235	3082	2961
2. Major Industrial Commodities	8529	9475	7906	8403	8894	10818	12186	11144
Edible Oil	1402	1761	924	1450	1626	1863	1656	1617
Petroleum Products	3642	4070	2076	2275	2898	3652	4562	4627
Fertiliser	1188	1026	1339	1117	737	1006	1301	1035
Clinker	487	619	638	574	644	766	993	879
Staple Fiber	454	493	1078	1018	1017	1180	1228	1086
Yarn	1356	1506	1851	1969	1972	2351	2445	1901
3. Capital Machinery	1835	2332	3321	3556	3817	5462	4513	3581
4. Others Commodities (including EPZ)	19645	23598	25000	26936	29569	35315	37786	34244
Total (1+2+3+4)	34084	40732	40704	43122	47005	58865	59915	54785
% Change (over the corresponding year)	-4.0	19.5	0.2	5.9	9	25.2	1.78	-8.56

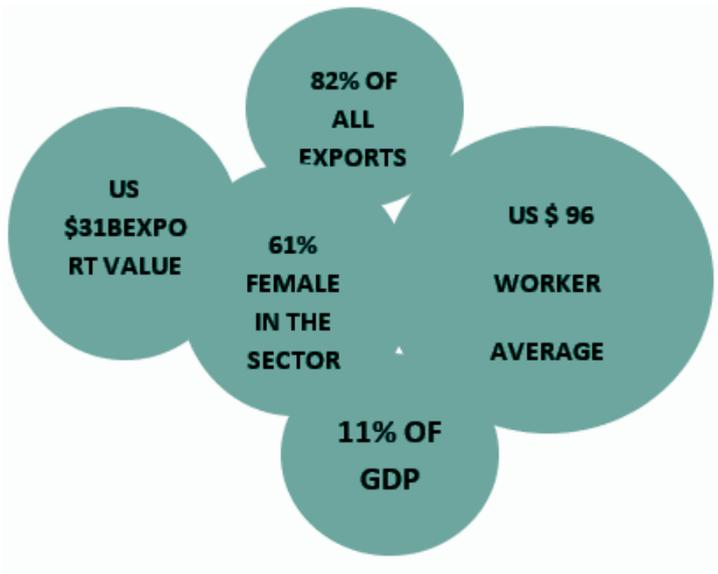
Source: Compiled by Statistics Department, Bangladesh Bank using data of National Board of Revenue (NBR)
 Note: Data from FY2012-13 and FY2013-14 are based on banking records and data from FY2014-15 is based on custom records.

it also impacted the livelihoods of people.

4.3 Ready-Made Garments (RMG) Sector:

In Gazipur City, parents had to sell their newborn baby to the hospital authority just for BDT 25,000 (US \$ 296 approx.) as they couldn't manage to pay the hospital bill of BDT 42,000 (US \$ 496 approx.). They were working in a garment factory and they lost their job because the factory got closed due to the pandemic. (source) This is just a single story that describes the overall terrible toll of COVID-19 on the RMG sector workers. People who are involved in the RMG sector are already established as a highly vulnerable group even before the pandemic. (Erin et.al.)

The RMG sector dominates the country's earnings which represent 80% (source) of all exports and 11% of GDP value valuing around USD 27949.19 million. (Source) There are around 4621 garments



Factories in Bangladesh according to the report of BGMEA which employs around 3.7m (source) people out of around 161m population. (source) As a larger portion of the Bangladeshi population earns their living from this sector, thus the fallouts in the sector have hampered many lives.

On a report of BGMEA, it was outlined that, international buyers have either canceled or suspended orders valuing USD 3.16 Billion affecting around 1,142 factories and 2.26m workers as of April 18, 2020. (source) According to recent statistics around 1 million workers have already faced the negative impact of it by being fired or laid off. (source) There is a high-level salary curtail for the existing workers even around 47% of them were not receiving payments. (BRAC Rapid Survey).

72% of buyers refused to pay for the raw materials already purchased by their suppliers.	91% of buyers refused to pay the cut-make-trim costs of the cancelled orders of suppliers.	97% of buyers refused to contribute to severance pay for laid off workers, contributing to the 80% of workers dismissed without pay suppliers.	98% of buyers refused to contribute to pay furloughed workers legally-entitled partial wages, contributing to the 72% of workers furloughed without pay from suppliers.
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The impact has been seen in not only the RMG workers but also on the whole supply chain and whoever is directly or indirectly involved in the process. There are around 1,461 manufacturing units in the textile sectors that are directly connected to this industry thus are facing the aftermath. RMG sector is the largest role player in reducing poverty predominantly of the rural people. A large supply chain depends on this sector but very little care has been taken considering the situation of the workers. A stimulus package was declared from the GoB but many factories didn't accept it as there was an interest added to it. (source) When the industries were recovering from the shock gradually, the second wave of COVID-19 made the situation harrowing. BGMEA president Dr. Rubana Huq has

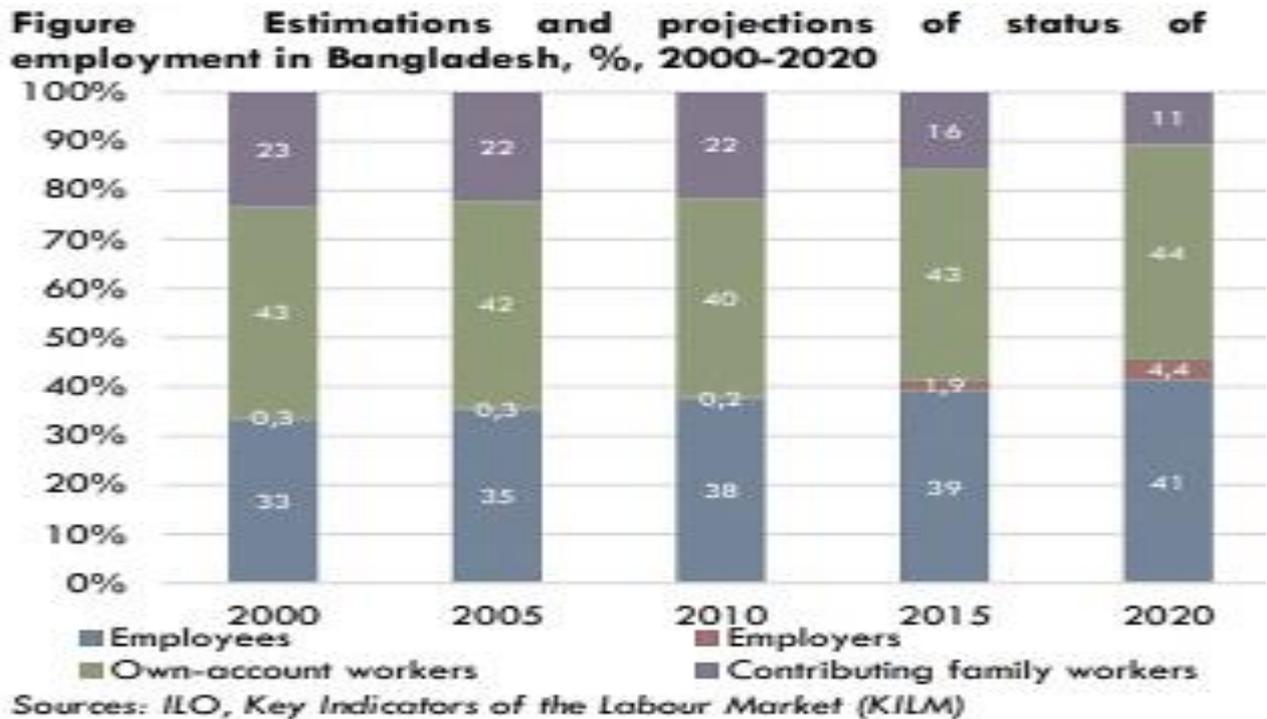
already urged for government policy support to help the RMG industries sustain in this critical situation. [\(source\)](#) As many countries have already imposed strict rules considering lockdown, thus the apparel industry has already registered a negative growth of 18.12% for FY2019-20 which amounts to around USD 6 Billion. Export statistics of RMG sector between 2018-2020:

Value in Million US\$									
Month	ALL COUNTRIES								
	Woven		Growth Rate (%)	Knit		Growth Rate (%)	Total (Woven Knit)		Growth Rate (%)
	Year			Year			2018/19	2019/20	
	2018/19	2019/20	2018/19	2019/20					
July	1490.62	1632.32	9.51	1527.12	1678.16	9.89	3017.74	3310.48	9.70
August	1331.67	1163.32	-12.64	1385.75	1242.69	-10.32	2717.42	2406.01	-11.46
September	1162.53	1091.70	-6.09	1293.98	1249.37	-3.45	2456.51	2341.07	-4.70
October	1473.01	1151.69	-21.81	1668.41	1368.13	-18.00	3141.42	2519.82	-19.79
November	1422.31	1240.03	-12.82	1430.80	1271.28	-11.15	2853.11	2511.31	-11.98
December	1552.17	1539.16	-0.84	1346.54	1396.17	3.69	2898.71	2935.33	1.26
January	1644.59	1625.00	-1.19	1487.98	1414.22	-4.96	3132.57	3039.22	-2.98
February	1556.41	1505.58	-3.27	1352.46	1278.70	-5.45	2908.87	2784.28	-4.28
March	1517.24	1200.37	-20.88	1307.83	1055.83	-19.27	2825.07	2256.20	-20.14
April	1255.21	194.55	-84.50	1284.07	180.12	-85.97	2539.28	374.67	-85.25
May	1645.67	622.16	-62.19	1597.51	608.38	-61.92	3243.18	1230.54	-62.06
June	1193.30	1075.31	-9.89	1206.09	1164.95	-3.41	2399.39	2240.26	-6.63
Total:	17244.73	14041.19	-18.58	16888.54	13908.00	-17.65	34133.27	27949.19	-18.12

Figure 15: Bangladesh's RMG exports to the world, FY 2018-19 & 2019-20 (EPB)

4.4 Instability in the labor market:

'It is a matter of shame for me that despite being the eldest son of the family, I remain unemployed' Shamim Ahsan, a Dhaka University graduate who will soon cross the government job age limit, is suffering from depression as he is finding it very hard to secure employment in a Covid-19 ravaged



economy.(source) The pandemic situation due to COVID-19 has developed an unprecedented crisis in Bangladesh blocking substantial progress in household incomes and eradication of poverty. Due to the lockdown situation globally, there is a high level of disruption in the transportation sector, business closures, and breakdown of the supply chain; have influenced a sharp decline in manufacturing industries, export-import, and especially RMG sector. Bangladesh has a workforce of around 69.7 million workers according to a report. (source) Approximately 1.8 million people are entering the job sector every year but there is slow progress in creating job opportunities.

Graph (15) clearly shows the changing trends in the employment sectors but the percent of employers has not shown significant growth concerning the percent of employees. Moreover, the largest sector of employment in our country is informal, people have no income guarantee. There are around 20 million people who are involved in different informal sectors especially in the urban settings. (source) Alongside that, the economic turmoil has impacted mostly every sector but, in some sectors, it is hardest where a large number of informal engagements exist.



It is estimated that in Bangladesh, around 20 million people are temporarily jobless in the informal sector as the devastating effect of COVID-19 on the economy. The informal sector contributes to around 40% of GDP which is comprised of different professions such as rickshaw-pullers, transport workers, day-laborers, street vendors, hawkers, hotel and restaurant workers, shops, markets, construction workers, and so on. (source) According to the Labor Force Survey-2017, around 60.8 million people were in various employment or engaged in economic activity while the informal employment was dominating as 85.1 percent of the employed population engaged in the country's informal employment. It has also significantly affected SME industries as they do have less organizational strength and economic stability. The SME sector alone employs around 2.45 million that fell into a harrowing condition due to the pandemic. "Professor Dr. Mustafizur Rahman, a distinguished fellow at the Centre for Policy Dialogue (CPD), said business and employment are confronting the adverse impact of the shutdown of the economic activities. "A large portion of our labor force involved in the service sector who do not get monthly salary are badly affected by the coronavirus shutdown," he observed. "An overwhelming majority of the country's 37 million labor forces--self-employed ones and day laborers--have become temporarily jobless and they've no earning," Dr. Rahman said. Even migrant workers cannot go abroad due to worldwide travel restrictions. Youths are also one of the largest portions who are highly impacted by it. The appearance of emerging technology, globalization, and now Covid-19 has seismically disrupted labor markets for youths and their chances of right, long term, and meaningful jobs. According to a recent joint report of the Asian Development Bank (ADB) and International Labor Organization (ILO), the

youth unemployment rate was 11.9 percent in 2019 and likely to increase to 24.8 percent this year in Asia and the Pacific. Most of the companies already curtailing human resources and salaries; recruiting new people is just a mere dream. Even the government agencies have halted most of the exams, as well as educational institutions, also postponed exams mostly. According to a survey carried out by the Bangladesh Institute of Development Studies (BIDS), around 13% of people have lost their jobs who were employed before COVID-19. Besides, 15.75% of people with an income between BDT15,000 to BDT30,000 reported a reduction of 25% in pay during the same period. On the other hand, according to an ADB (Asian Development Bank) report, job postings in the largest online job-matching sites including Bdjobs.com, Chakri.com, JOB.COM.BD, and alljobsbd.com, have declined since the Covid-19 outbreak in Bangladesh.

Overall, the impact of the pandemic will remain for a significant time though the situation gets normal gradually. Most companies and organizations have brought changes to their strategies. Employment impacts so far are large in terms of job losses, absenteeism, and reduced earnings, in a context of high uncertainty about job prospects. (World Bank).

4.5 Tourism:

Tourism is considered one of the biggest economic sectors of the world which are accounted for 330 million jobs worldwide equivalent to 10% of total global employment. According to the World Travel & Tourism Council (WTTC), 100.8 million are currently at risk in the tourism sector with 1 million jobs being lost every day. Asia- Pacific’s tourism market, which was seeing a 5.5% growth, remains the most affected among the other regions. Bangladesh, being a rising tourism destination, was growing on comprising 4.4% contribution to the GDP. The Pacific Asia Travel Association (PATA) outlined that the overall tourism and hospitality sector of Bangladesh stands to lose BDT 97.5 billion or USD 470 million (UNWTO). PATA estimated the loss considering the turnover of different segments of the industry including airlines, hotels, motels, restaurants, travel agents, tour

Country	2017	2018	2019	2020 (Year to Date)											
				YTD	Q1	Q2	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Afghanistan	2	28	72		↓-21.2	10.7									
Bangladesh	341	353	388	11.1	↓-8.7	↓-64.4									
Bhutan	103	103	120	16.5	↓-35.9		↓-11	↓-23.8	↓-56						
India	27,365	28568	29962	10.8	↓-7.1	↓-10.6									
Iran	4,402														
Maldives	2,744	3028	3157												
Nepal	639	641	701	↓-27.7	↓-27.7		21.1	↓-11.5	↓76.6						
Pakistan	352	391	494	↓-2.4	30	↓-38.9									
Sri Lanka	3,925	4,381	3607	↓-60	↓-31.5	↓-100	↓-7	↓-17.7	↓70.8	↓-100	↓-100	↓-100	↓-100	↓-100	↓-100

operators, and transports involved. It is estimated that around 300,000 people will lose jobs in the sector. Furthermore, TOAB (Tour Operators Association of Bangladesh) which is made up of 700 tour operators of the country, has reported losses of BDT 1500 crores and estimated that more than 5000 people lost their jobs. (source) Throughout COVID-19, the Bangladesh tourism industry has shown a negative trend.

4.6 A comparative scenario of COVID-19 impacts by sector wise:

The COVID-19 has left its footprints in almost every sector of the country. When the economy gets affected, it affects the whole society in a row. Below a quantitative approach of impacts on jobs by sector wise has been outlined compiled from Skills Bangladesh report of Bangladesh Government.

Sector	Immediate Impact	Comments
Informal Sector and SME	10 million unemployed	<ul style="list-style-type: none"> ▪ SMEs in the informal sector will reduce by 30-40% ▪ Approximately 0.5 million informal enterprises are affected which had a huge impact on the livelihoods. ▪ In Bangladesh, 35-40% of SMEs are cottage based
Transportation and Equipment Sector	7 million unemployed	Over 0.5 million registered drivers with ridesharing companies have become unemployed during the lockdown
Construction Sector	1 million, 30% of the approximately 3.8 million workforces in the sector will be laid off permanently.	<ul style="list-style-type: none"> ▪ Post COVID-19 sales volume will fall by 30% as monthly sales will be down to 700 apartments per month ▪ Many small companies may close down due in the coming months as they were unable to pay bank loans. ▪ In Dhaka and Chittagong, there are presently 3000 under housing projects at different stages of construction comprising approximately 60,000 apartments

Furniture Sector	0.6 million unemployed, Unemployment could reach 1 million by the end of the year 2020	<ul style="list-style-type: none"> ▪ 65% of the industry consists of unbranded furniture ▪ The majority of the sector is made up of small and micro-entrepreneurs
Readymade 4.5 Garments and Textile Sector	0.5 million jobless, 4 million truck drivers, port workers, suppliers at risk of losing their jobs.	<ul style="list-style-type: none"> ▪ Bangladesh is the 2nd largest apparel manufacturer in the world and the sector has made losses through suspended orders of over \$3.16 billion ▪ The overall growth of the industry will reduce by 25-30% by the end of the year ▪ The sector has exported 25% less than their overall target this year ▪ The sector is expecting approximately 150 small factories to close down – 20,000 more unemployed
Leather Goods and Footwear Sector	0.41 million	<ul style="list-style-type: none"> ▪ 160 export-oriented leather goods and footwear factories will incur losses of 197 million from March to December 2020. ▪ The majority of the sector is made up of small and micro-entrepreneurs
Tourism and Hospitality Sector	0.32 million Over 1 million at high risk of unemployment if lockdown stays throughout the year 2020	<ul style="list-style-type: none"> ▪ Over 1000 travel operators have laid off approximately 8000 employees and over 2300 hotels have laid off about 14,000 employees. ▪ Losses of 9700 crores BDT will be incurred by the sector if the lockdown extends till June. ▪ About 3500 travel agencies and 500 unregistered agencies impacted directly or indirectly by the crash of this sector
Light Engineering Sector	0.3 million	<ul style="list-style-type: none"> ▪ 55,000 micro, small and big businesses in this sector with only 10% making agricultural equipment which is still in demand; rest of them are making huge losses

		<ul style="list-style-type: none"> ▪ Approximately 45,000 factories will close down ▪ Most of the industries will be working in reduced capacity after the lockdown; at least 20% of companies in the light engineering sub-sector will either close down or work on a limited capacity
Migration Sector	1.1 million Over 250,000 migrant workers have returned to Bangladesh; with over 10,000 workers permanently unemployed.	<ul style="list-style-type: none"> ▪ Approximately 100,000 workers returned home jobless from February 26 to March 26, 2020. Over 10 million Bangladeshi migrant workers, remitted USD 18.32 billion to Bangladesh last year. ▪ Almost 5,000 Bangladeshi migrant workers are expected to leave Kuwait next week as the lockdown in the Gulf nation has crippled their ability to earn a living. Thousands more may return to Bangladesh if lockdown persists in the Middle East and Europe.
Real Estate and Housing Sector	0.015 million	The industry has an unsold inventory of about 20,000 apartments. Post COVID-19 sales volume is expected to fall by 30%.
Ceramic Sector	0.004 million 0.009 million to be unemployed if lockdown extends till August 2020	Huge losses for the ceramic sector if lockdown extends a few more months. Many small entrepreneurs will be driven out of business and factories will be shut down.
	Total Job Loss: 20.449 million	

Figure 19: Sectors wise direct impact

4.7 The insecurity of livelihoods:

During the pre-COVID period, Bangladesh has made noteworthy progress in cutting poverty incidence from 50.4% to 20.5% from 1990 to 2019. [\(source\)](#) Though impacts of COVID-19 combined with continuous lockdown measures have drastically impacted the country's long-standing micro and macro-economic stability which has disrupted the balance of livelihoods of general people and raised the poverty to around 40.9% in 2020. According to the South Asian Network on Economic Modeling (SANEM), Bangladesh's poverty rate may double to 40.9% from that before the onset of the pandemic. KAM Morshed, an expert working for the local NGO BRAC, said, "The poor and vulnerable people are becoming more vulnerable. So, we expect the inequality in society to increase." ¹ [\(source\)](#). According to another report from SANEM, they estimated that around 20 million people will emerge as new poor as well as there could be around 90 million people who will be under severe poverty pressure due to the pandemic. [\(source\)](#)

As the income of the people has decreased, there is a major change in the food consumption pattern. In a rapid assessment report by Concern Universal, it was indicated that those people who used to eat fish and meat every week, now relying on mashed potatoes, fried potatoes, and thin pulses. When they spent BDT 20tk now they are spending BDT 5tk in the same scenario. "We don't have any source of income right now.

We are eating less, that's how we are coping with the lockdown" a respondent said in the assessment. [\(source\)](#) FAO reported in their second-order impact assessment, "More than a third (36.4%) of the youth and adolescents surveyed in rural and urban areas reported moderate or severe food insecurity during the lockdown situation. This figure is higher than the national average (31.5%) before the COVID-19 pandemic. Severely food-insecure populations reported going without eating for an entire day, exhaustion of food reserves, or both. Compared to changes in income status due to COVID-19, the highest prevalence of "moderate or severe food insecurity" (42.9%) and "severe food insecurity" (11.8%) were found in groups that reported concurrent losses in household income." [\(source\)](#) The impact of the crisis on the slum dwellers and urban poor is significantly illuminating. People in these strata live with low resilience in coping strategies to support themselves and survive in the unfolding crisis.

A staggering 72% of urban households lost their main source of income in the early days of the crisis (in comparison with 54% of rural households). [\(source\)](#) Urban households experienced a staggering 75% reduction in their incomes, in comparison to the pre-covid-19 income levels. As these were mainly visible among the extreme and moderate poor, as a consequence they were harder hit by food security accompanying loss of income, especially among extreme and moderate poor. As a

consequence, they have been harder hit by food security accompanying the loss of income. The infographic map gives a clear picture of the decline in income which has consequently impacted livelihoods. The formula is simple, no money-no food!

Division-wise monthly average income fall



There's a consistent decrease in income across all region

Dhaka based earners faced a 64% fall in income in April

Rangpur farmers and rural workers faced a 53% fall in income in April



4.8 Women Vulnerability:

Primarily COVID-19 is a health crisis but broadly it is a tripartite issue consisting of health, economic, and social parameters. During the pre-COVID-19 timespan, Bangladesh has made significant progress in terms of women empowerment. (UN). According to the ‘Global Gender Gap 2020’, Bangladesh was the top-ranked country in South Asia in terms of narrowing the gender gap.

	2020	2018	Position change
Bangladesh	50	48	2
Nepal	101	105	4
Sri Lanka	102	100	2
India	112	118	4
Maldives	123	113	10
Bhutan	131	122	9
Pakistan	151	148	3

Figure 21: Global Gender Gap 2020 Rankings for South Asia (World Economic Forum)

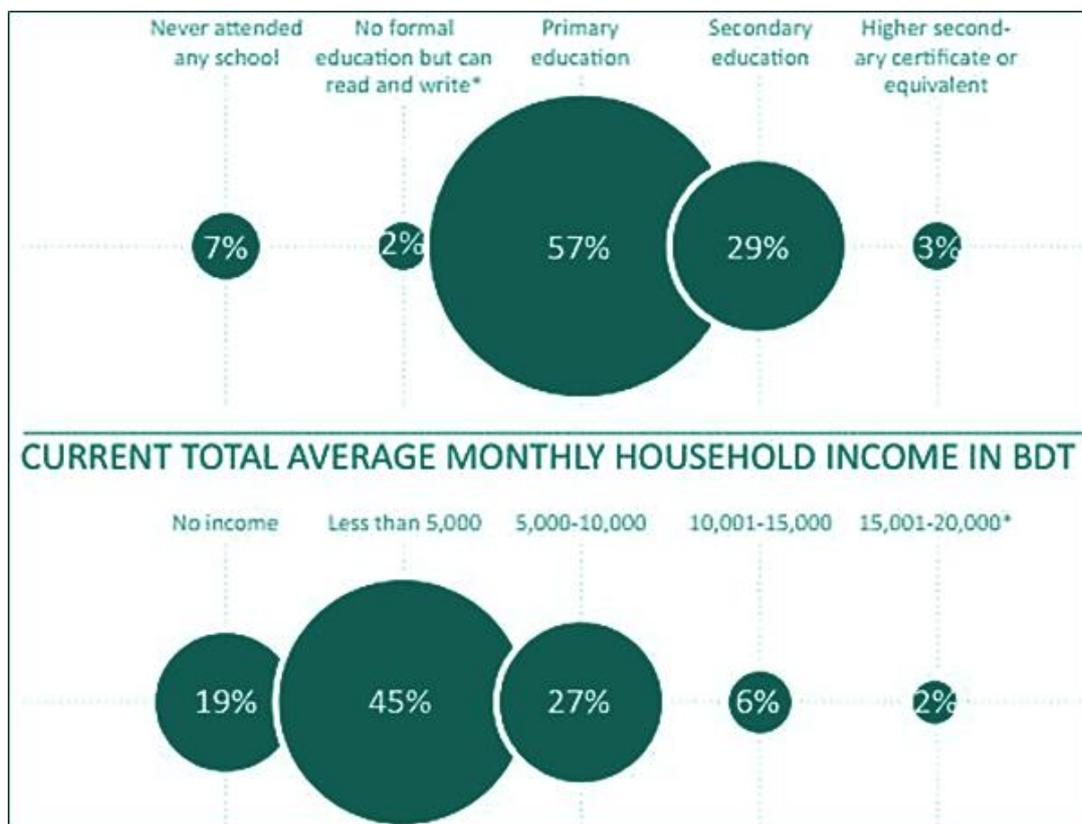
Though there were vulnerabilities before the onset of COVID-19, there is a sudden increase in gender-based violence during the time of COVID-19. Also, global data shows that pandemic or disease outbreaks increase incidences of gender-based violence- particularly exposing girls and women to domestic violence, intimate partner violence, and rape. NAWG’s anticipatory assessment report reveals that 49.2% of women and girls feel safety and security as an issue in the current lockdown situation. Both a Gender Monitoring Network consultation and a qualitative BRAC study on COVID-19 in the slums support the assumption of increased domestic violence. (source) In a news article named “I’m alive but not living”, Aljazeera described reporting of four rape cases per day in Bangladesh and many more unreported ones. (source) According to Ain O Salish Kendra (ASK), from January to June 2020, there were 601 cases of rape (increasing from 76 in April to 94 in May and 174 in June), 107 deaths of women due to domestic abuse, and 103 sexual abuse cases leading to 9 suicides.

On the other hand, 91.8% of workers in the informal sector in Bangladesh are women who have lost their means of earning a living. (source) According to a note by the World Trade Organization

(WTO), as of August 2020, up to 1 million workers have already been dismissed or furloughed due to the cancellation of future work orders and refusal to pay for current orders. With 80% of the RMG workforce being women, the downturn in the sector, and the subsequent loss of jobs has affected women to a much greater extent. So, they face challenges in income disparity, justice, safety, access to proper WASH facilities, health services, and even food security.

4.9 COVID-19 induced Migration Situation:

As the COVID-19 pandemic is a global phenomenon as well as local, it has put both international and local migrants into a stressful and vulnerable situation. Dhaka city is considered one of the expensive cities in South Asia following New Delhi according to an annual survey by Mercer. The cost-of-living index of Dhaka city is 64.99%. (source) Due to the pandemic, around 90% of households have faced an economic downturn. According to BBS, at least 25 million people workers live on wages and salary and at least 10 million live on daily wages. During the lockdown situation, people were confined between their walls, and these vulnerable people, both men, and women faced a drastic situation. Bearing the house rents, utilities and foods was a pressurizing situation for them bundled with income loss and job loss. According to a rapid assessment by IOM, most of the people who moved from Dhaka city to Satkhira, 57% of them hold the educational qualification up to primary education and monthly income below 5K for the majority.



Livelihood is the primary driver of internal migration in Bangladesh according to a study by ActionAid Bangladesh. Most people faced a financial crisis in the rural areas they moved to city areas now when they are facing the same crisis they are moving to the rural areas.

Information & Data Gaps:

The baseline assessment relied largely on desk based secondary data & literature review. Sources for information on the situation were limited since the early period of the global pandemic as restrictions are still present from carrying out full-scale assessments due to COVID containment measures. Quantitative data is absent in most of the reports & studies, alongside the prevalence of livelihood & economic disruptions due to pandemic. While national level data are easier to be found & considering formidable humanitarian actors presence in the areas hard hit by natural disasters, climate change & refugee influx; data related to COVID-19 impacts especially in socio economic & livelihood contexts are still relies on rapid assessments in those specific areas rather than city level impacts. Joint Need Assessments also have less priority on urban contexts.

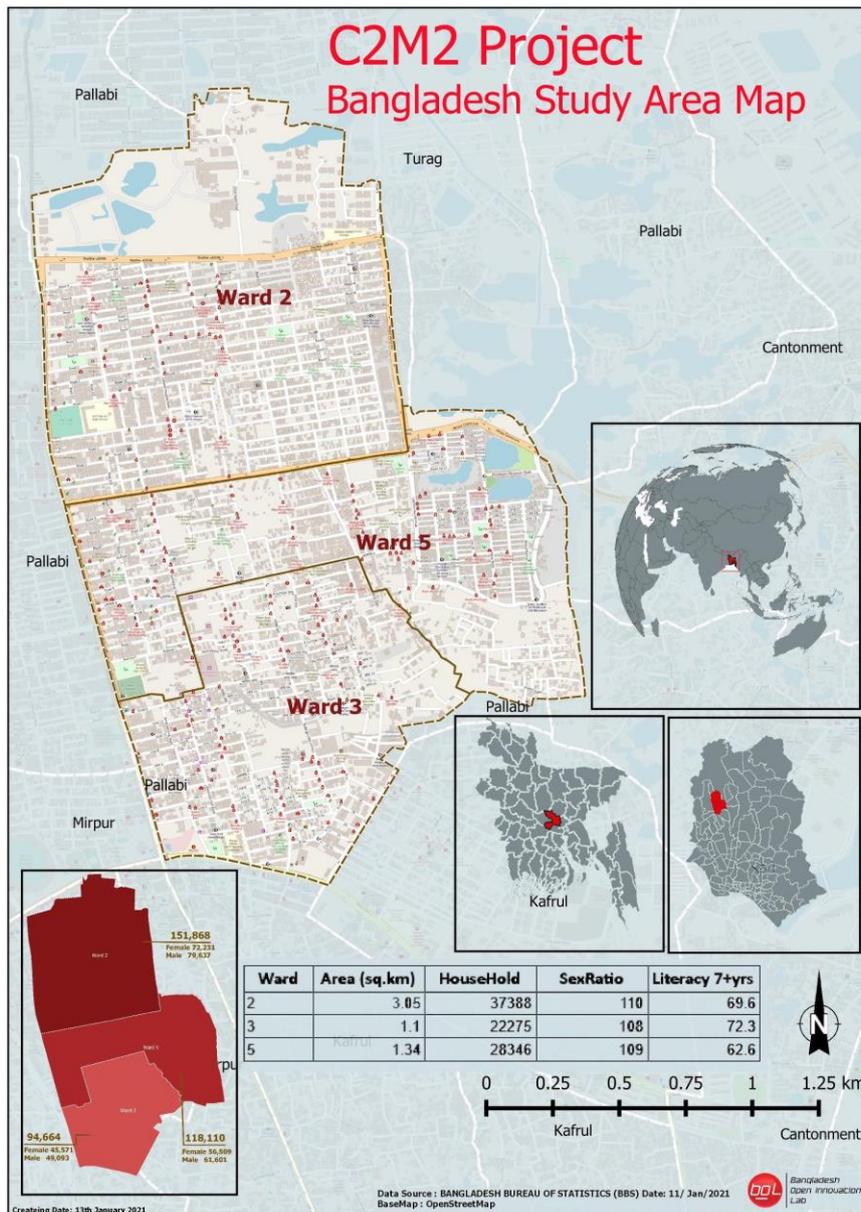
Data recency & reliability are other concerns. Most of the assessments are from the very early stages of pandemic ie. April - June, don't reflect the current situation & impacts. More reliable sources like publicly accessible published GoB/ NGO reports, Institutional studies are not adequate to conclude analytical statements. Even studies are relying more on newspaper articles & sources those sometimes create bias & contradiction in information.

5. Project Focus



Project Area

According to Fraenkel and Warren¹ studies, population refers to the complete set of individuals (subjects or events) having common characteristics in which the researcher is interested. Visualizing the COVID-19 impact in a generalized context, the Mirpur area represents a perfect blend of population or demographic diversities. Mirpur area comprises 9 wards where the study will be conducted in wards no 2,3 and 5. According to the sampling standards¹, purposive sampling has been applied in the case which represents at least 30% of the total no of words. The map of the study area has been attached below:





Data Accumulation Process

Being a data-intensive project, it will seek data from different sources. The data will be both quantitative and qualitative. The data sourcing process primarily can be outlined in two stages:

- i. Desk Review of relevant documents.
- ii. Secondary sourcing from non-profit entities, CBO, local government offices, community associations, co-operative societies, etc. who are actively present in the study area.

Secondary data sourcing involves several approaches which are as follows:

1. Scanning of information from documents i.e., reports, case studies, community surveys, research works, field surveys.
2. KII with key stakeholders working in the community.
3. FGD with a local group of people for developing a real-world scenario.
4. Online sessions with key personnel who are contributing to similar types of work.
Observations.
Online survey.

Geospatial data accumulation and analysis:

- i. Existing OSM data assessment: The open data from OpenStreetMap platform will be downloaded and assessed for the study area.
- ii. Existing government geospatial data assessment: Government organizations created geospatial datasets will be assessed using ArcGIS and QGIS.
- iii. Data gap identification and mitigation: The data gap will be identified after comparing OSM and governmental datasets and will be followed by data creation that will mitigate the gap.
- iv. Base map creation: The final project Base map will be formed combining all the created and accumulated data.
- v. Crowdsourcing of secondary impact open data in the study area: The secondary impact of COVID-19 in the study area will be crowdsourced and geospatially mapped using advanced GIS tools.

- vi. Migration data accumulation and Merging: Inbound and outbound migration data will be accumulated and merged with the Base map.
- vii. Final Maps' creation: The final maps will be a series of merged and analyzed geospatial datasets.

Kinds of Geospatial Data (approx.):

1. Government Area Map Data
2. OpenStreetMap data
3. Different geocoded socio-economic datasets
4. Migration data
5. Crowdsourced health and WASH-related datasets



Technology Assessment

Instrumentation for data gathering

Tasks	Tools
Desk review	Online journals, Research papers, Reports of internal organizations, Government reports, International and local media
KII	A structured and unstructured questionnaire, Open-ended opinions. Paper and pen shall be used for capturing the feedback and recording of the interview will be kept for further referencing.
FGD	Document-based for capturing information from the group, recording device, and if possible, shooting the whole session in camera.
Observation	The observation process will be mostly an unsystematic process comprising of jotting down field notes from field observation focusing on the existing livelihoods people are maintaining in the project area. It will also include capturing photos from the field

	to develop a visual story. The whole process will follow the Ecological Validity of the observation process.
Online sessions (Webinars, conference, discussion panel)	Engagement: Direct invitation through mail or phone contact; Social media, Through organization. Platforms: Zoom or Jitsi Meet Streaming: YouTube Information capture: Taking notes, message history, recording of the program
Online survey	Google forms shall be used to carry out the online-based surveys.
Offline data collection	For any kind of offline data accumulation customized ODK will be used.



Data Management

Managing data is a crucial part of the whole project concept. All the collected data will be categorized daily. Any paper-based information will be scanned and also a digitized version of the information shall be stored. All numerical data will be coded into MS Excel and MS Word for further analysis. GIS data shall be processed through mostly JOSM, QGIS, and ArcGIS software and stored in the computer as well as a backup copy in Google drive/separate hard drive. Coded data and collected data will be separated and all the metadata to be stored for future reference. Data quality will be maintained strictly and data errors shall be minimized through check and double-check. Secondary data quality shall be maintained by referencing a minimum of two sources and based on data source ranking. Government and International organizations shall be given priority when citing data for study purposes. Every data accumulation process will go through regular checking if there is any inconsistency and reported immediately for solution.



Ethical Considerations

Data privacy will be given the highest priority in the overall process. No personal data that link to a specific person shall be published without prior permission. For every organization outreach, a brief

of the project will be outlined, and seek permission for using any information. Respondents in every stage of the work will be handled with prior consent. When disseminating any information in any project documents, proper referencing shall be involved. In the overall study process, the APA code of ethics will be maintained.



Data Sharing

To make available the GIS data to everyone, the OSM platform will be given priority though it is confirmed by seeking guidelines from the concerned authority of the project. A project intended data dashboard will be prepared to share the collected data to be accessible online. In terms of publishing documents, guidelines are to be expected.



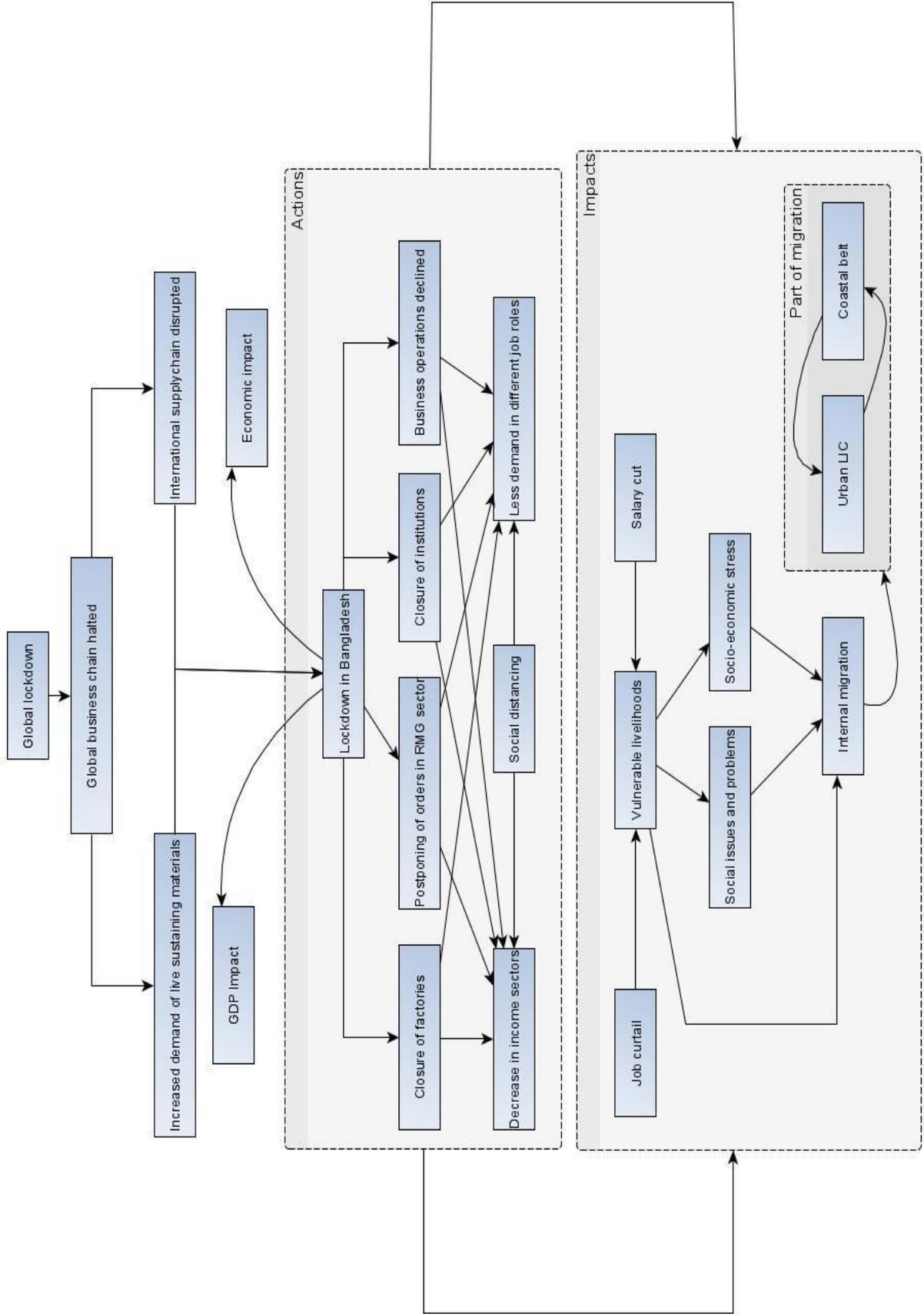
Tools/ Software

Different types of software shall be used throughout the whole project's activities. A preliminary assessment of software allocation has been outlined in the following table but there will a scope of using more software on a necessity basis comprising both open and closed sources.

Office tools	MS Word, MS Excel, MS PowerPoint
OSM Tool	JOSM, Geofabrik and HOT Export tool
GIS Tool	QGIS, ArcGIS
Analytical tool	R and SPSS
Web portal	Gcloud, PostgreSQL, HTML and JavaScript

Table: Preliminary data management tools to be used

Annex: Conceptual cause-effect relational diagram of COVID-19



C 2 M 2 U L A A N B A A T A R P R O J E C T

Baseline assessment

Public Lab Mongolia
December 2020



Glossary

Aimag - province level administration; there are 21 aimags and the capital city

Ger - traditional mobile housing of wooden frame and felt covering

Khashaa - refers to fenced plot of land or fencing

Kheseg - meaning "part", refers to neighborhood of about 150 households

Khoroo - smallest administrative unit in the capital city

Naadam - major national holiday and traditional summer festival featuring horse racing, traditional wrestling and archery

Tsagaan sar - major national holiday - traditional spring festival during which people travel across the country to greet their elders

Special Emergency Committee (SEC)- national committee in charge of planning and executing the Covid-19 pandemic response in Mongolia

Soum -administrative level below aimag



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Overview



C2M2 ULAANBAATAR PROJECT CONTEXT

Ulaanbaatar, is especially vulnerable to the impacts of Covid-19 in the country, with the highest population density and more than half of the population living without adequate access to basic infrastructure, urban services and sanitation facilities. Ulaanbaatar is also one of the most polluted cities in the world during winter months, causing public health crisis of respiratory diseases and exacerbation of other diseases and pre-existing conditions among the urban population.

Toxic air pollution, poor living conditions, and inadequate access to health and sanitation services pose increased risk and vulnerabilities to the ger area communities. The Covid-19 pandemic will further disadvantage those urban residents who were already economically unstable before the pandemic, or have become since then. Such communities include recent rural-to-urban migrants or low-income households, who are most likely to settle further away from centralized services.

Since the community outbreak in the country on November 11, 2020, the healthcare system of the country is already struggling to manage healthcare needs of managing those in quarantine and isolation, those being treated for Covid-19, and running all other health service operations.

The healthcare access for ger area residents pre-pandemic was already inadequate. The burden of the pandemic on the healthcare system will have the most impact on those already vulnerable. Certain policies such as strict lockdowns are already impacting the access to health services for reasons other than Covid-19 for residents who live in the ger areas or further from city center.

Health services are not only inequally distributed geographically for ger area residents, but the information on available health services is also lacking. Without available and easy to access information on where and how to get health services, getting the needed health service is a time-consuming and frustrating process. These challenges result in delayed diagnosis, treatment and follow-up consultations.



C2M2 ULAANBAATAR PROJECT GOALS

The C2M2 Mongolia project is focusing on reducing the second-order health impacts due to the Covid-19 pandemic for the vulnerable population of Ulaanbaatar city. The project aims to identify high risk areas and facilitate health service access for the residents of the capital city, more specifically, for the ger area residents.

The project aims to facilitate these issues for the ger area residents through vulnerability assessment and information access. Vulnerability assessment will identify communities that are at high-risk during Covid-19, and identify existing service gaps for local decision-makers to consider to reduce impacts.

Facilitating information access about available health services through easy-to-use platform and mobile application will help ger area residents to be able get health services without delay.

The project's information portal and application will not only reduce second-order health impact during the pandemic for ger area residents, but also significantly improve health service information access for the entire population beyond the project implementation.



P R O J E C T S C H E M A T I C

CHALLENGES INCREASING VULNERABILITY

<p>PRE-PANDEMIC, EXISTING HEALTH CHALLENGES FOR ALL RESIDENTS OF ULAANBAATAR</p> <ul style="list-style-type: none"> • Toxic air pollution related respiratory diseases and mortality • Air pollution related worsening of other diseases and mortality • High-density settlements with high levels of environmental pollution • Cost of living vs. income generated • Lack of comprehensive available health service information to effectively seek health service 	<p>C2M2 ULAANBAATAR PROJECT RESULTS</p> <ul style="list-style-type: none"> • Comprehensive information on available health services in UB
<p>PRE-PANDEMIC, EXISTING HEALTH CHALLENGES FOR GER AREA RESIDENTS OF ULAANBAATAR</p> <ul style="list-style-type: none"> • Higher exposure to indoor air pollution from coal burning • Exposure to other environmental pollution such as soil and water • Inadequate access to public services such as health, water, transport • Inadequate WASH facilities • Spending more time and money on commuting, buying coal, fetching water and showering. 	<ul style="list-style-type: none"> • Vulnerability analysis of ger area in UB <p>EXPECTED OUTCOMES</p> <ul style="list-style-type: none"> • Facilitate improved and quick health service access for vulnerable population
<p>COVID-19 RELATED HEALTH CHALLENGES FOR GER AREA RESIDENTS</p> <ul style="list-style-type: none"> • Loss of income to spend on food, fuel, and medicine • High-risk of contracting Covid-19 due to essential public facilities such as water kiosks, coal sale points, and public bathhouses • Lockdowns further diminish already inadequate access to health services directly and indirectly via limited transport options 	<ul style="list-style-type: none"> • Scale project results to whole country beyond project duration • Prevent non-Covid-19 related health impact and death • Identify high-risk areas and service gaps
<p>COVID-19 RELATED HEALTH CHALLENGES FOR VULNERABLE GER AREA RESIDENTS</p> <ul style="list-style-type: none"> • Recent climate change migrants, and low-income families living in isolated fringe ger area furthest from services cannot get supplies and medicine during lockdown • Neighborhood conditions such as dirt roads, hillside, dead-end, or flooded streets hinder emergency service access to families settled in hazardous areas • Lack of informational, geographic, and economic access to health services and related resources delay diagnosis and treatment 	<ul style="list-style-type: none"> • Support government, local and international assistance to direct their efforts effectively towards vulnerable populations

A B O U T U L A A N B A A T A R

Mongolian capital, the city of Ulaanbaatar, sitting in a valley surrounded by mountains, is a tale of two cities. One can find luxuries of every product and services only to find glaring inequalities just a few kilometers away from the downtown in the ger area.

The very essence of the city was "Urguu" temple built in 1639, a religious hub, which moved around 29 times along rivers basins, finally rested to establish the beginning of the current day capital city in 1778. The original form of the city was ger area, made up of gers, houses, temples and fenced plots of land. Some of the oldest historical part of the city still remains to be ger area.

Rapid rural-to-urban migration due to number of factors such as freedom of movement, transition to market economy, centralized governance, and climate change contribute to expansion of the city. Many young people move to the city for education, and remain after graduation for employment opportunities.

In the past, the city's population often surpassed expected growth, paving the way for expansion of the ger area. The ger area is not dense, but expanding, making distribution and access to services challenging. The ger area today is an unplanned, not informal or illegal, settlements surrounding the central apartment area.



Монголія. — Обшів видъ города Урги.

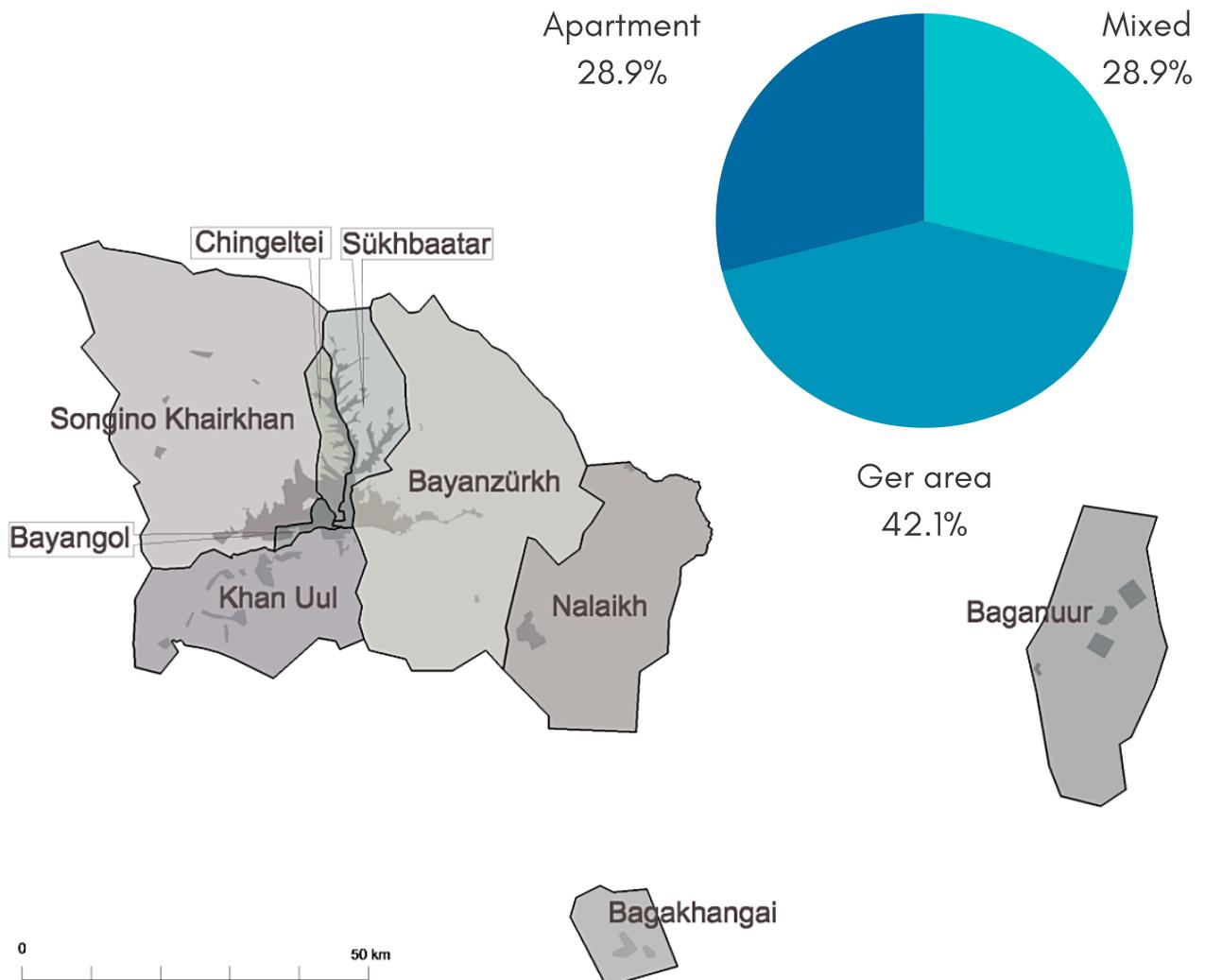


CITY ADMINISTRATIVE STRUCTURE

The city administration is divided into nine districts. There are six central and three isolated districts, including Baganuur, Bagakhangai, and Nalaikh. These isolated districts are communities around mining operations and largely made up of ger areas compared to the central Ulaanbaatar.

The districts are divided into a total of 152 khoroos. Khoroos range in area and population. Songino-Khairkhan and Bayanzurkh districts are the largest in area and population as well as proportion of ger area. Each khoroos is further divided into kheseqs, not as legal unit of administration, but as logistical grouping of about 150 households in each kheseq in the ger area.

Each level of the city administration is divided into executive and citizen's representative offices. Administration at different levels can be significantly influenced by political landscape, including kheseq leaders who are appointed by khoroos governors. Each kheseq is assigned a kheseq leader, who, also a local resident. Kheseq leaders are the eyes and legs of the city administration but also the first line resource for residents.



U L A A N B A A T A R I N N U M B E R S

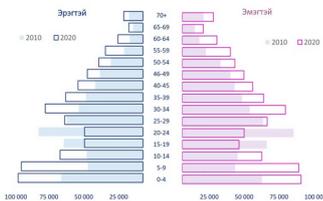
1,539,80

POPULATION

Gender ratio is 92.8 men for every 100 women



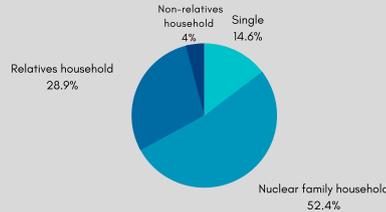
MEDIAN AGE 28.7



Five largest age groups in order are 0-4; 5-9; 30-34; 10-14; 25-29.

3.7 AVERAGE HOUSEHOLD

Bayanzurkh and Songino-Khairkhan districts have 48.2% of total households in Ulaanbaatar



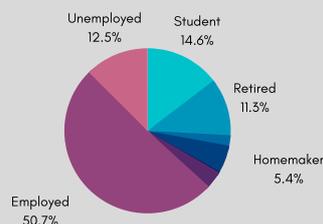
HOUSING 23%



Households of the city live in traditional gers; 42% in apartments and 34.5% in houses; 0.5% in other housing type

50.7% EMPLOYMENT

of people over 15 years of age, in Ulaanbaatar are employed, while 12.5% are unemployed and looking for work

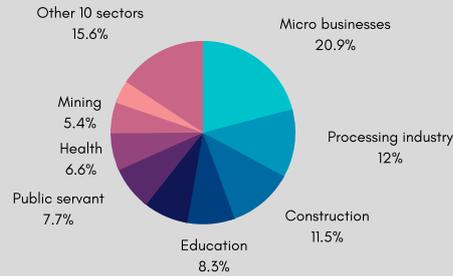


ULANBAATAR IN NUMBERS

20%

of people employed work in micro or small businesses. Men account for 53% and women for 47% of people employed in Ulaanbaatar

EMPLOYMENT SECTOR



INCOME/EXPENSE

\$499 / \$517

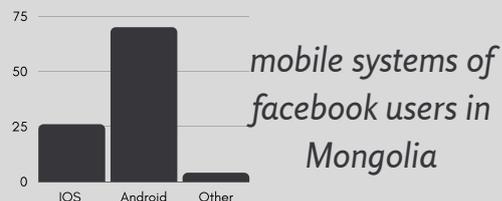


Average monthly income and expense for people living in urban areas in Mongolia

76%

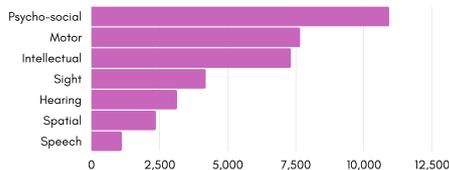
of city residents are internet users, and 91.2% use mobile phones

COMMUNICATION



DISABILITY

1 IN 3



person with disabilities live in Ulaanbaatar. Total of 35,589 or about 2.5% of the city residents have disability.

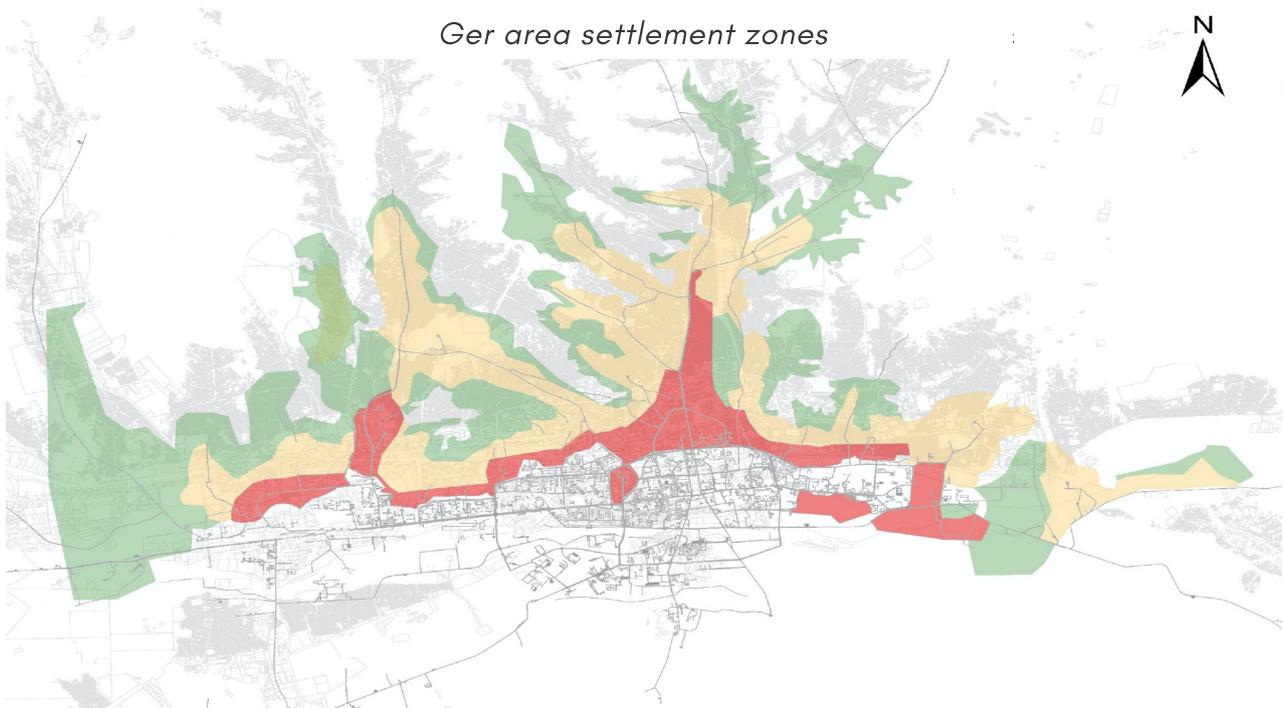
85.4%

of single parents are women. Divorce due to domestic abuse is common for single mothers

SINGLE PARENTS

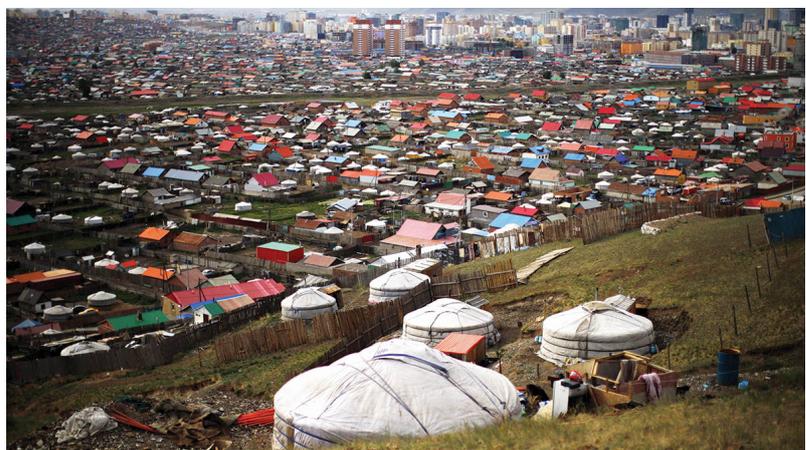


GER AREA STRUCTURE



The ger area account for almost 80% of the city's settlement area. It is generally divided as central, mid and fringe zones. The central ger area is the most established, with more permanent structures such as houses, and more and variety of commercial services. The peripheral ger area is the new growth expansion of the city, with mostly new comers of rural-to-urban migrants, who are less established and tend to have more gers than houses, and have the least access to public and private services. As could be expected, the mid ger area is in between the central and peripheral ger areas.

The city underwent five master plans since 1954. The fifth master plan of 2030 includes plans to apartmentalize central ger area with central infrastructure connection. Mid ger area is planned to have mix of self sustaining and centralized utilities. Fringe ger area is planned to become improved ger area. Local administration and residents eagerly await these changes even though the current master plan is ambitious, not only economically but also in terms of time. In the meantime, conditions in the ger area continue to be a challenge for its residents.



URBAN SERVICES IN THE GER AREA

ADMINISTRATIVE

Each khoroo has a khoroo administration on the territory, often housed in the same building as the family clinic, and the police station. The administration has variety of services such as registration services, social work, and information about other public services. At the khoroo level, kheseg leaders carry out surveys in their tasked khesegs.

UB total
152
khoroo

HEALTH

At each khoroo, there is family clinic, which provides primary care for all ages. Family clinics are publicly owned, but privately operated ambulatory health service. Some diagnostic services as well as public health campaigns such as hepatitis testing are organized. The health services are largely free for registered residents. Unregistered residents can be turned away due to the capacity of the family clinic. Primary health providers, if necessary refer the patients to the district level hospitals.

UB total
131
family clinics

EDUCATION

Public education from kindergarten to high school is free, and attendance by school zoning. This means, children should attend schools that are in their neighborhood. However, not all khorooos have public schools and kindergarten, so children go to the closest locations in the neighboring khorooos. Moreover, some public schools are deemed better than others, and overpopulation at certain schools still happen despite the school zoning system.

UB total
685
kindergartens
UB total
258
schools

WATER

Ger area is not connected to central pipes, and residents fetch water from water kiosks. There are three types of water kiosks: underground, central pipe, and mobile. Underground kiosks are wells drilled into the ground. Central pipe connected kiosks draw water from the infrastructure. Mobile kiosks are tanks on trucks that mostly service hard to reach areas for underground or central pipe kiosks, such as elevated hills and other restrictions.

UB total
1770
water kiosks

PUBLIC BATHHOUSE

Public bathhouses are private companies providing WASH services to ger area residents in line with government standards. Public bathhouses are place to shower, do laundry or get dry cleaning, and get a haircut. Public bathhouses are located along central water pipes due to the water usage, and therefore not readily available in areas with only mobile water kiosks or underground wells.

UB total
124
public bathhouses

TRANSPORT

Transportation in ger area consists of publicly owned, privately operated bus lines, private minibuses and taxis. Those living further from the city center often need to transfer multiple times to get home via bus, minibus and/or taxi, and walking.

Covid-19 in Mongolia



COVID-19 IN MONGOLIA OVERVIEW

Since the emergence of the Covid-19 pandemic in China, Mongolian government responded quickly by closing all international borders, suspending flights, enforcing face mask and limiting public gatherings. These swift nation-wide actions helped Mongolia stay outbreak free for almost a year by keeping its borders closed, facilitating only a handful of chartered flights at a time for its nationals abroad, and organizing extended quarantine guidelines to ensure prevention of outbreak from imported cases.

During the first quarter of the 2020, Mongolian government as well as the public stayed vigilant and followed public health guidelines such as wearing masks in public spaces, limiting major national holiday activities and restricting local travel between provinces. Except for the community outbreak scare from the first positive case of a French national traveling into the country in March 2020 and subsequent temporary lockdown, the situation remained stable.

Starting early summer of 2020, gradually, the public anxiety about the Covid-19 virus subsided, government restrictions were lifted and Mongolia was back in business as usual, with the exception of the border closure and international flights. Educational institutions went back to in-person classes, offices opened, large conferences and concerts were attended by the hundreds. Mongolia was as if the pandemic did not exist, and the government received attention and praise in international media for its success in keeping the virus out and under control.



COVID-19 IN MONGOLIA OVERVIEW

Until the first confirmed case of community outbreak in November 2020, the Mongolians most impacted by the Covid-19 pandemic was those stranded abroad due to the border closure and insufficient number of flights and support from the government. Mongolians internationally pleaded with the Mongolian consulates, formed social media groups, and sent letters to the national committee overseeing the Covid-19 response in Mongolia. The public sentiment about returning of those stranded abroad were divided and only a handful of Mongolian media covered the challenges faced by Mongolians stuck internationally. Over time, the government continued to bring back its nationals however slowly, more interest groups formed to talk about those stranded, and some financial support was organized by civil society groups.

The first case of community outbreak on November 11, 2020, traced back to a Mongolian driver who transports goods from Russia. Following, spurts of cases appeared along the railway line that goes north to south in the country. The government issued strict lockdown, suspended all in-person activities, enforced curfews and limited travel not only within the country but also within the city and other settlements in the provinces.

Within a month and a half since the outbreak, the healthcare system is already experiencing strain. We expect to see the impacts of the Covid-19 pandemic on the Mongolian population more markedly in the coming months, on the economy, and the health of the population as the country works to prevent further transmission and remain in lockdown.



Mongolians in South Korea demand the government to let them back in the country

COVID-19 NUMBERS AS OF JANUARY 1, 2021

**LEVEL-2:
MODERATE**



1,220
Confirmed cases:
40% imported
60% community



837
Total
recovered



1
Total
death



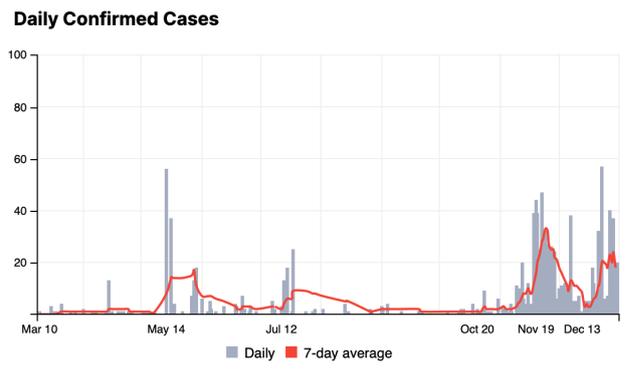
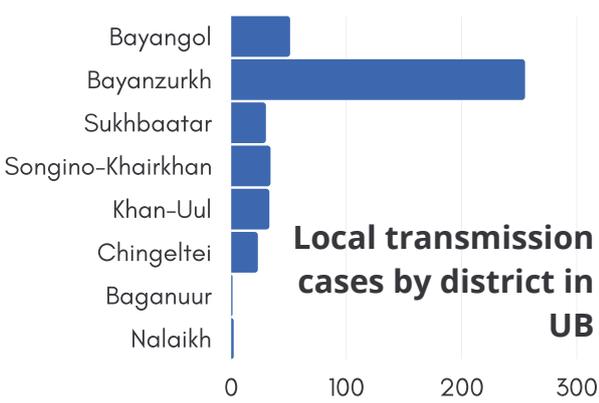
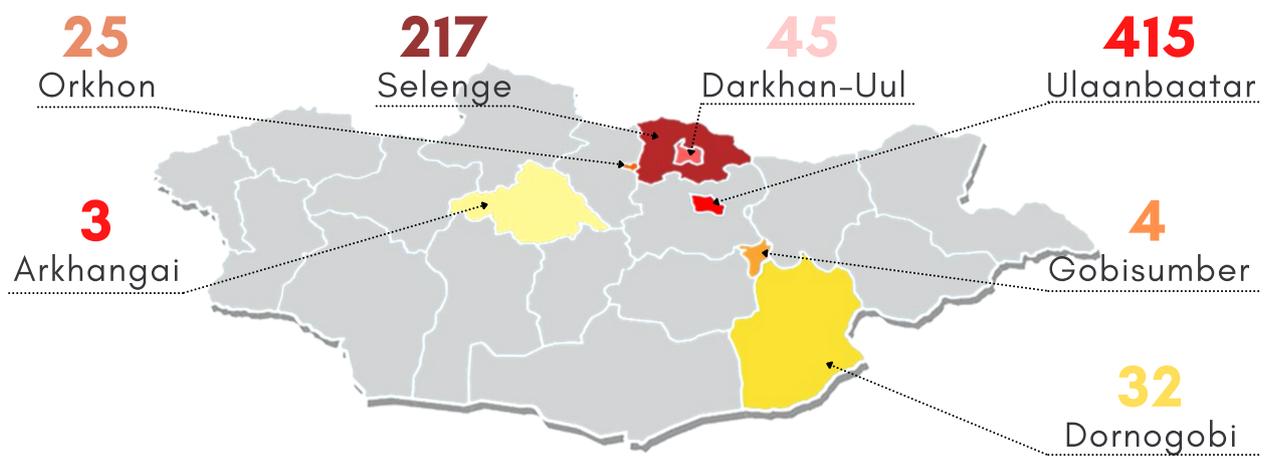
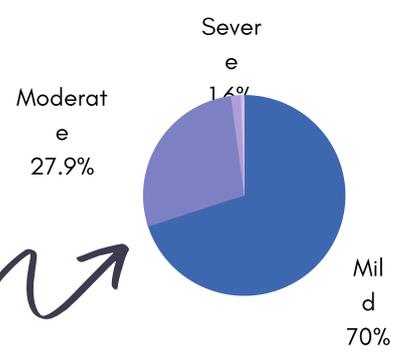
618,748
Total
tested



38,107
In
quarantine



373
Receiving
treatment



Jan 1, 2021

Total Covid-19 cases: 1220
Total healthcare workers with Covid-19: 85

December 13, 2020

Total Covid-19 case: 905
Total healthcare workers with Covid-19: 21

November 19, 2020

The government passes various precautionary and relief measures including tax breaks, prolonged border regulation, and support for businesses & industries.

November 13, 2020

"Shuurkhai 119" smartphone application launch: citizens can receive advice and information from anywhere in the world

November 11, 2020

First case of community outbreak confirmed of truck driver coming from Russia. Total number of cases: 384

September 1, 2020

Total Covid-19 cases: 304 - all imported

June 1, 2020

Total Covid-19 cases is 185 - all imported

March 10, 2020

First Covid-19 case: French national arriving in Mongolia tests positive

February 25, 2020

In South Korea, a Mongolian with underlying illness who tested positive dies

January 31, 2020

Mongolia closes its borders with China until March 2, 2020

December 31, 2020

First case of Covid-19 reported in Wuhan

December 13, 2020

With the exception of nine sectors, businesses have zero electricity, heating, steam, water and waste bills. Households with up to 100 square meters will have zero heating bills.

November 23, 2020

All educational institutions are to finish the fall semester virtually until February.

November 16, 2020

Free 18 testing sites across Ulaanbaatar: rapid antigen and PCR

November 12, 2020

All trips except to grocery store and pharmacy nearby are restricted and are subject to interrogation by police patrols

October 01, 2020

Covid-19 preparedness project for vulnerable populations launches to improve diagnostic capacity & offer telemedicine to those in need

September 14, 2020

Domestic Covid-19 restrictions are lifted - public events and educational institutions resume in-person activities.

May 25, 2020

The 2020 Naadam Festival will be live-streamed and modified to avoid mass gatherings.

March 13, 2020

Mongolia closes all borders including commercial flights, trains, auto and pedestrian traffic until May 31, 2020.

February 19, 2020

Travel restrictions enforced during Tsagaan sar to limit travel during holidays.

January 06, 2020

Covid-19 Task Force assembled by Ministry of Health

MAJOR COVID-19 RESPONSES IN MONGOLIA

MOVEMENT & TRAVEL RESTRICTIONS

- The border closure and suspension of commercial flights have been in effect since January 26th, 2020 and has been extended 9 times until present.
- Mongolians abroad need to obtain permit from the SEC to get on charter flight into Mongolia.
- Compulsory quarantine has been reduced to 14 days instead of 21 at compulsory government facility and 7 days instead of 14 days self-isolation at home.
- Travel between provinces and within the city has been in effect in March and since November 11, 2020 until January 6, 2021.
- Only essential commute is permitted such as grocery store and pharmacy by foot and public transportation; private vehicle use is not allowed
- Curfews are set for shopping at main markets.
- In-person classes are suspended; offices are at partial capacity with option to work from home.

SOCIAL & WELFARE SUPPORT

- Social security, health insurance, and income taxes have been exempted from April 1-October 1, 2020. Taxes have been resumed but at 5% instead 10% until end of 2020.
- Exempt from penalties for late social security and income taxes until July 1, 2021.
- Exempt from penalties such as interest and disconnection for late fees on electricity bill.
- Allocation of about \$3.5 for every child under 18 for three months to support virtual education.
- Allocate increased child support of \$35/month for every child under 18 from April 1-October 1, 2020.
- Increase allocation of food stamp: \$5.6/child and \$11.2/adult.
- Increase welfare support for children under 16 who needs permanent caretaker for medical condition to \$101/month.

ECONOMIC SUPPORT

- Electricity, central heating, water and waste collection service utility bills for households under 100 meter square and businesses (with list of sectors in exception) will be covered by the government from December 1, 2020-July 1, 2021.
- Reduce cost of refined coal for ger area residents by 75% from December 3, 2020-April 1, 2021.
- Income taxes for businesses have been exempted from April 1-October 1, 2020.
- Tax reduction for real estate that demonstrate rent reduction for their tenants until July 1, 2021.
- Value added tax exemption for stable food products such as sugar, flour, rice, vegetable oil and wheat etc.,
- Tax exemption for import of medical supplies for Covid-19 diagnostic, treatment, sanitation and face masks etc.,
- Reduce all types of gasoline cost by about \$0.15/liter.
- Postpone government funded mortgage loan payment schedule without increase in remaining total amount until July 1, 2021.

C O V I D - 1 9 P O L I C Y I M P A C T S

BORDER CLOSURE & SUSPENSION OF COMMERCIAL FLIGHTS: JAN-DEC 2020

CONTROL COVID-19 WITHIN MONGOLIA

The early border closure and suspension of commercial flights helped the country remain local transmission free for over 10 months and allowed the government to deal with imported cases by scheduled charter flights.

MONGOLIAN NATIONALS STRANDED

By July 2020, more than 11,000 Mongolian nationals submitted requests to return home. People faced financial, medical, visa-related and psychological challenges such as separation of families.

CHARTER FLIGHTS & 21 DAY QUARANTINE: JAN-DEC 2020

MONGOLIAN AIRLINE: CHARTER OPERATOR

The Mongolian Airline is the only charter flight operator that transported Mongolian nationals who had permit from the SEC from rendezvous airports internationally.

HIGH COST OF RETURNING HOME

Mongolians stranded abroad needed to get permit to return and to get on a charter flight. The charter airfare cost significantly more than commercial amount, in addition to 21 day compulsory quarantine fees. Healthcare services and human resources are strained due to diverging for quarantine facilities.

EDUCATIONAL INSTITUTIONS VIRTUAL CLASSES: TWO SEMESTERS

STUDY & WORK FROM HOME

Kindergarten, schools and universities in-person operations suspended for Spring and Fall 2020 semesters (except for about a month of in-person classes during Oct-Nov), and option to work remotely, families enjoy studying and working from home.

DISADVANTAGED STUDENTS AND FAMILIES

Families and students of low-income, isolated areas are further disadvantaged as many lag behind the school curriculum due to lack of resources such as access to internet and computer even though classes are broadcast on national television. Parents with young children suffer income loss due to having to stay at home.

LOCKDOWN & TRAVEL RESTRICTIONS: MAR, NOV-PRESENT

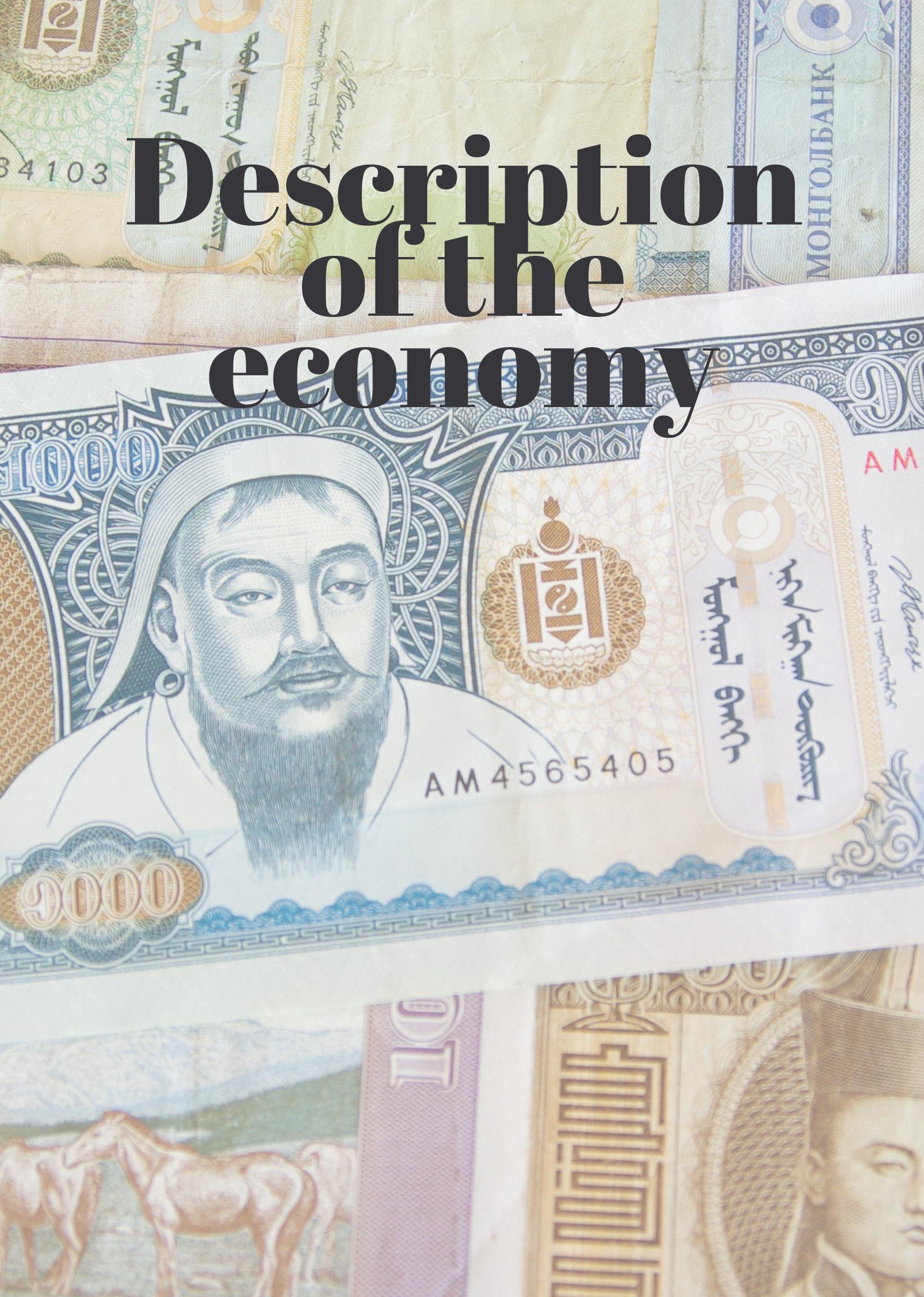
CONTAINING LOCAL TRANSMISSION

Swift national measurements in response to possible local transmission has been effective in containing, and slowing down the rate of infections. This greatly helps prevent healthcare system overload which is very likely in case of wide-spread local transmissions.

SECONDARY IMPACTS OF COVID-19

Strict travel restrictions and lockdowns have so far resulted in unintended secondary health impacts: 21 people died from not being able to access emergency medical treatment in time due to travel restrictions, and residents of fringe ger areas are further isolated from essential health services and help.

Description of the economy



MONGOLIAN ECONOMY OVERVIEW

Currently, Mongolia is classified as low-middle income country according to World Bank GNI per capita calculations, at around \$3,780, ranking 124 out of 192. In the World Competitiveness Index of 2019, Mongolia ranked at 62 above Venezuela.

Mongolia's economy is largely divided into mining and agriculture, which includes animal husbandry. Mongolia is rich in natural resources such as coal, copper, gold, silver and uranium. The export from extractive industry account for 90% of total exports. Mongolian rural population accounts for 30% of the total population. Total number of herders, on the other hand, account for about 13% of the population over 15 years of age. Out of 124,000 businesses in Mongolia, 75% are based in Ulaanbaatar.

As of September 2020, unemployment rate in the country is 5.9% which is the lowest in the last five years. The average monthly salary as of November 2020 was \$444 which saw a little increase from last year same time. About 21% of those working earned a monthly salary between \$147-\$245, whereas about 12% of working people earns up to or below the minimum wage of \$147. As of 2019, the poverty rate in the last 20 years remained at 20% and one in three people live under the national poverty line.

Below are summary of economic indicators as of November 2020, compared November 2019.

- Total government income decreased by 15.4%;
- Total government spending increased by 30%;
- Total export decreased by 8.3%;
- Total import decreased by 22.5%;
- Mining industry production decreased by 5.6%;
- Processing industry production decreased by 21.8%;
- Agriculture industry production decreased by 10.1%;
- Common goods and services cost increased by 3.5%;
- Amount of late loan/debt increased by 21.8%;
- Social welfare allocation increased by 2.4 times;
- Unemployment benefit allocation increased by 15.9%;
- Total number of crimes decreased by 25%;
- Total number of respiratory infection cases decreased by 44%.

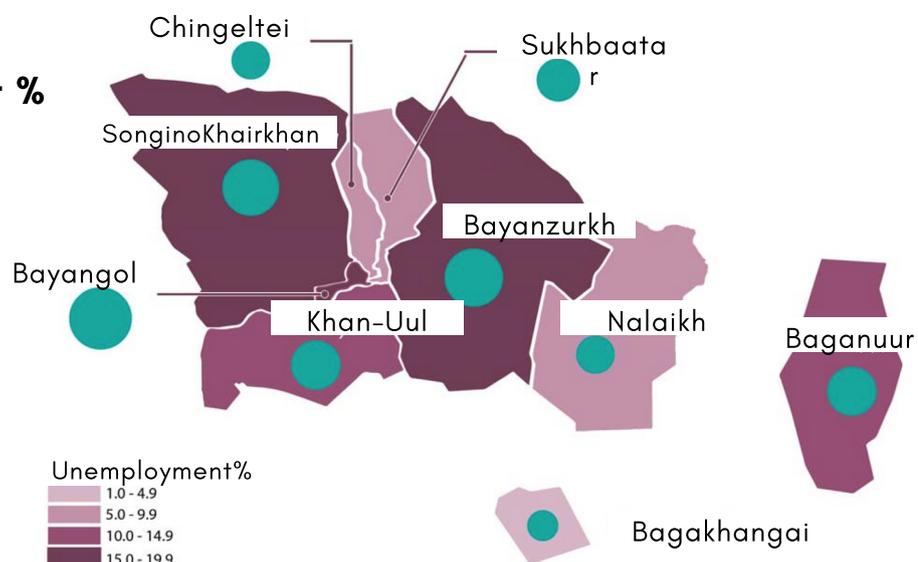
The above numbers illustrate that low-middle income families are most likely affected by the Covid-19 pandemic economically. Furthermore, the statistics do not report on the impacts experienced by informal economy in which majority of low-income or vulnerable families rely on such as day labour. On the other hand, due to social distancing, mask mandate, and suspension of public gathering and holidays have had positive impact on infectious diseases such as children staying at home, and parents working remotely.

COVID-19 HOUSEHOLD SURVEY RESULTS

The National Statistics Office and the World Bank jointly carried out a household survey from a sample of about 2,000 respondents in Mongolia, including urban and rural populations. The survey's round one and round two were conducted in May and August, 2020 respectively. Third round was scheduled to be conducted in December, 2020. Below is the summary from the first two rounds of the survey.

- Nationally, public awareness is high about Covid-19 policies including lockdown, travel restrictions, and preventative measures;
- Households with self-employed or agricultural means of income are significantly impacted
 - Self-employed or family businesses continue to decline in income and staying open
 - 73% experienced business income losses from decrease in customers, venue closure, and logistical disruptions due to Covid-19
- Those employed with contracted salaries were less affected, but still one in three households reported wage income losses
- Half of herders and farmers experienced income loss compared to same time last year price in livestock products, specially cashmere
- About 85% of the poor households experience drastic changes since end of January, 2020:
 - Job loss - 12%
 - Closure of non-farm business - 7%
 - Increase in price of stable food products - 64%
- Food security is still a serious problem for poor households
 - uncertainty around financial security and food affordability in question on weekly basis
- Welfare assistance helped reduce impacts
 - 81% of households received some kind of welfare assistance laid out by the government

**Unemployment %
by district,
Ulaanbaatar,
2020**



Vulnerable population

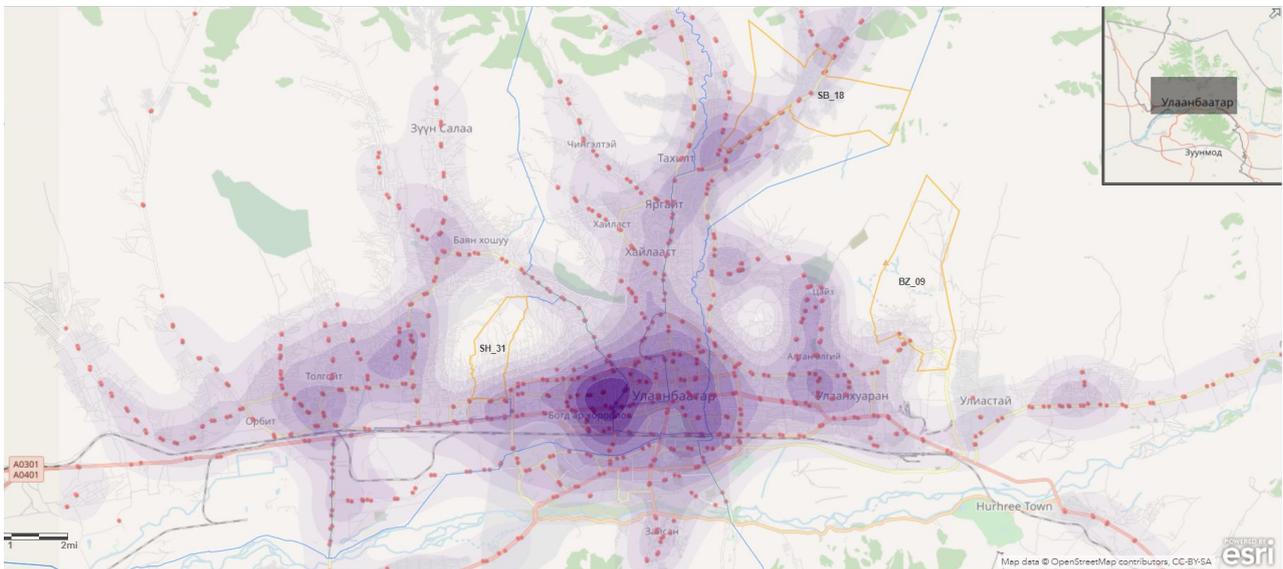


IDENTIFYING VULNERABILITY FACTORS

INFRASTRUCTURE & BASIC SERVICES: The ger area is home to 57% of the city's population. The ger area lacks central infrastructures such as heating, running water, and flushing toilets. Electricity is mainly accessible, with some instances of informal branching off of central lines that could pose hazard.

1 family clinics available per 10,619 ger area residents

COMMUTE & TRANSPORTATION: Roads are sporadically paved, safe, clean, accessible public and green spaces are far in between. The public transportation system is provided along the main roads which become less accessible in the ger area, and especially fringe ger area. Residents will often need to travel on foot, informal taxi or minibus to reach public bus stops.



Main road network and bus station density illustrated, Public Lab Mongolia 2020.

SAFETY: Street lighting, police patrolling, and pedestrian ways are inadequate so that ger area residents in especially neglected areas experience more crime rates. Long, multiple transfer commutes further increase risk of crimes. Drunk people and stray dogs are also factors in safety. Domestically, gender based violence is another pressing issue. Household accidents such as burn injuries are common among young children living in gers.

ECONOMIC: Households living under national poverty line are at further risk if the household head is unemployed, has low education level, and dependent on social welfare. Recent rural-urban migrants move to the city in search of better economic opportunity and the number of herders moving to the city after losing their livestock to climate events are increasing. Single mothers and parents, and families with members of children with disabilities are another economically disadvantaged groups.

38% of ger area households live under national poverty line and of those about 58% live in gers;

IDENTIFYING VULNERABILITY FACTORS

ENVIRONMENT: Air pollution is a severe public health concern for all Mongolians. However, indoor and outdoor air pollution is higher for residents in the ger area from burning coal for heat and cooking.

Families who cannot afford coal for heating burn other carbon-rich materials such as old tires that are highly toxic. Winter can reach -40 celsius and ger area resident need to use fuel heating for about 8 months out of the year. About 34% of total deaths in Ulaanbaatar is contributed by air pollution.

In addition to safety, access to safe, green public spaces sorely lack in the ger area, unpaved dirt roads, fly ash and illegally disposed household and other industrial waste and pit latrine toilets contribute to the environmental pollution disproportionately higher in the ger area.

66% of city population uses pit latrine for toilet;

WASH: Inadequate water, sanitation and hygiene services further increase the health risks of living in the especially underserved ger areas. Mobile water kiosks run higher risk of contamination due to the logistics of transporting water through few different containers until it reaches the user.

1 water kiosk available per 521 ger area residents

Due to Covid-19 lockdown measures, public bathhouses have been closed. Public bathhouses also offer laundry and dry cleaning services. Ger area residents are facing the conflict of need for sanitation services while potentially being exposed to higher risk of contracting the Covid-19 virus from shared essential services. Environmental pollution coupled with poor WASH access contribute to higher levels of infectious diseases.

1 public bathhouse available per 7450 ger area residents



Left: Ger area students often spend twice as long to go to school; Right: Children fetching water from water kiosk

Overview of healthcare system in Mongolia

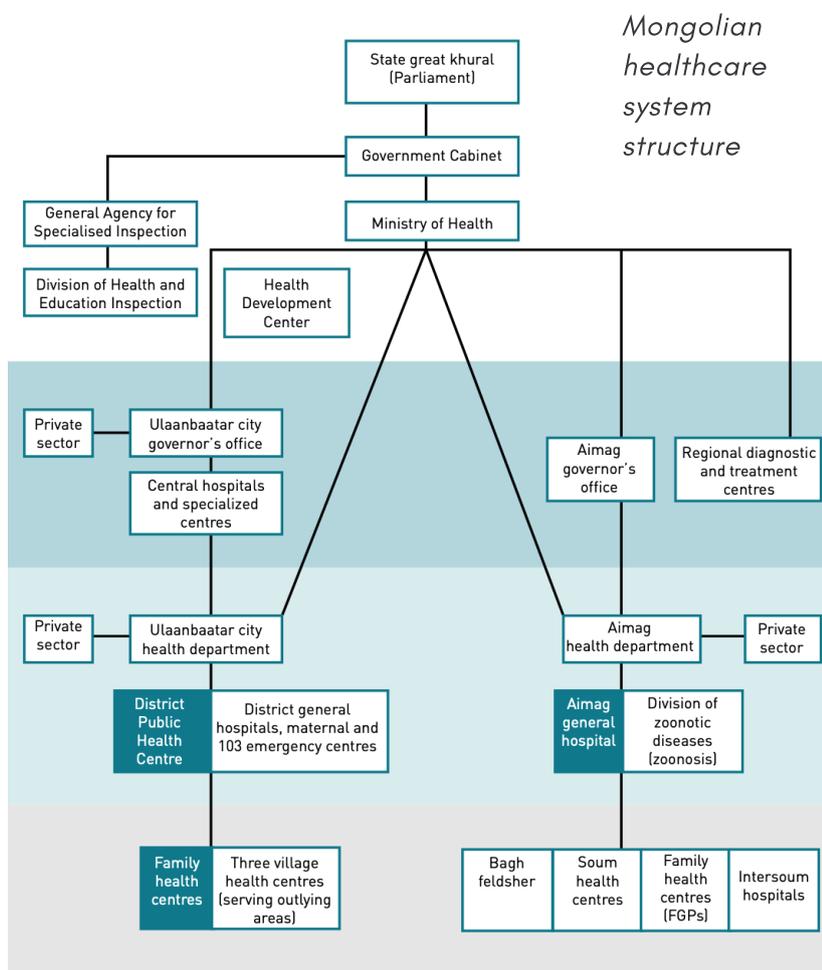


OVERVIEW OF MONGOLIAN HEALTH SERVICE

The Mongolia has universal healthcare system, overseen by the Ministry of Health of Mongolia. It is divided into two main administrative structures including that in aimags, and the capital city. The healthcare services are provided in three levels including primary care, and specialized care which are divided into secondary and tertiary level institutions.

Primary care health services are provided by private entity operating the public service. Secondary care health services are provided by district hospitals and public health centers (in case of Ulaanbaatar). The tertiary care health services include specialized service, for example, oncology, provided by state hospitals, which are located in the capital city. In the aimags, regional centers provide tertiary care.

Compulsory health insurance is automatically deducted along with social security and income taxes on payday. There are groups of demographics that are covered without contributing to the social health insurance such as mothers with babies younger than two and herders. The public healthcare system works through referral at each level, meaning that primary care is consulted and secondary or tertiary care is provided by referral from the previous level healthcare institution.



Although universal, healthcare is not completely free. The cost of healthcare is often partially deduced or reimbursed by the social health insurance.

Apart from the public healthcare, there are also private health service providers. Private health providers often offer primary and secondary level health services. Most of the private health providers are located in the capital city.

While some private health services are covered by the universal healthcare insurance, most are out of pocket payments.

CHALLENGES IN ACCESS TO HEALTHCARE

Nationwide, as of 2012, there were 546 primary care providers, 36 secondary care providers, and 17 tertiary care providers (all of which are located in the capital city). While Ulaanbaatar is home to large majority of the healthcare services, the primary level care at the khoroos has twice as few doctors compared to the soums.

Health service access is hindered by a number of factors. First include the dispersed settlements across the country with small populations. Second challenge include access to public health services. In case of Ulaanbaatar, ger area continues to be underserved. Secondary and tertiary level public healthcare are especially overloaded as public opinion about primary and some secondary level healthcare quality is doubtful. Third, healthcare workers low wages, and challenging working conditions impact the quality of service provided. In Ulaanbaatar, family clinic doctor workload is increasing along with the expansion of the city's population at more than four times higher number of patients seen compared to that of aimag primary care doctor.

This further decreases the public perception of healthcare, especially at the primary care level, which causes people to skip and crowd secondary or tertiary level services. Fourth, the public knowledge and awareness about health and health services is generally low.

Lack of information on how to access healthcare is a major reason for delayed diagnosis and treatment. The process of getting public healthcare is often time-consuming, frustrating, and patient satisfaction continue to be poor without efficient outlet for communicating complaints and reviews. Furthermore, access to public healthcare can further be hindered by corrupt or nepotism based practices.

Patient pathway in urban setting

Tulga goes to the FHCs for his area when he is ill and sees the family doctor with whom he is registered. Although the consultation is free, he has to pay for prescribed medications if he is uninsured or if the drugs are not included on the EDL.

If Tulga's illness cannot be managed by staff at the FHC, he is referred to the district health facilities using form 13A for a more detailed diagnosis and specialist services. Once referred to the district general hospital or district health alliance, Tulga would receive the required diagnostic services there, unless a specialist decides that a further referral to a tertiary hospital is required. If Tulga needs to be admitted to the district hospital, he might be referred by the specialist, while waiting for a bed to become available. If it is an urgent case, he would be admitted directly.

If Tulga was referred to a tertiary-level hospital for more detailed diagnosis or intensive treatment, depending on his illness, he would be sent back to the district hospital or FHC for aftercare. If Tulga is insured, he should pay a co-payment when he is admitted to district or specialized hospitals. If he is under social care assistance, the government pays the co-payment. If he is uninsured he pays in full out-of-pocket.

CHALLENGES IN ACCESS TO HEALTHCARE

These issues prompt those who can afford, to seek private healthcare. Richest households spend about four times more on healthcare than the poorest do. Low-income families, then are less likely to seek private healthcare due to affordability issue, and their access to services could be delayed or not sought at all. According to 2010 study by the ADB, 77.5% of respondents did not access primary care because of lack of money; 55.9% because of no health insurance; and 31.8% because of being too far away. Demographic group of urban migrants who do not have local residency cannot access primary and secondary care services (as well as education such as sending their children to public kindergarten or schools).

The poor living conditions, infrastructure and service gaps in the ger area puts its residents at higher health risk during the Covid-19 pandemic including both Covid-19 infections, and non-Covid-19 related conditions. Inadequate healthcare access in the ger area, especially among low-income, and fringe area furthest from health and other emergency services makes them vulnerable to secondary health impacts.

Currently, during lockdown and travel restrictions within the city, healthcare service is even harder to access for many, especially those located further from the city center. There have been more than 20 cases of people dying as a result of not getting medical care in time due to Covid-19 restrictions. The secondary level district hospital in Bayanzurkh district is quarantined due to Covid-19 outbreak. Bayanzurkh has also the highest number of Covid-19 cases in the city. National Cancer Center is also quarantined, leaving the critical patients lost as to what to do next. These examples at every level of the healthcare can be expected to surface as the Covid-19 pandemic progresses. People with chronic or underlying conditions may not be able to get healthcare services as usual, undermining their health further. In addition, the winter and spring months will have the highest level of air pollution. Environmental pollution and lack of access to healthcare puts ger area residents at higher risk.

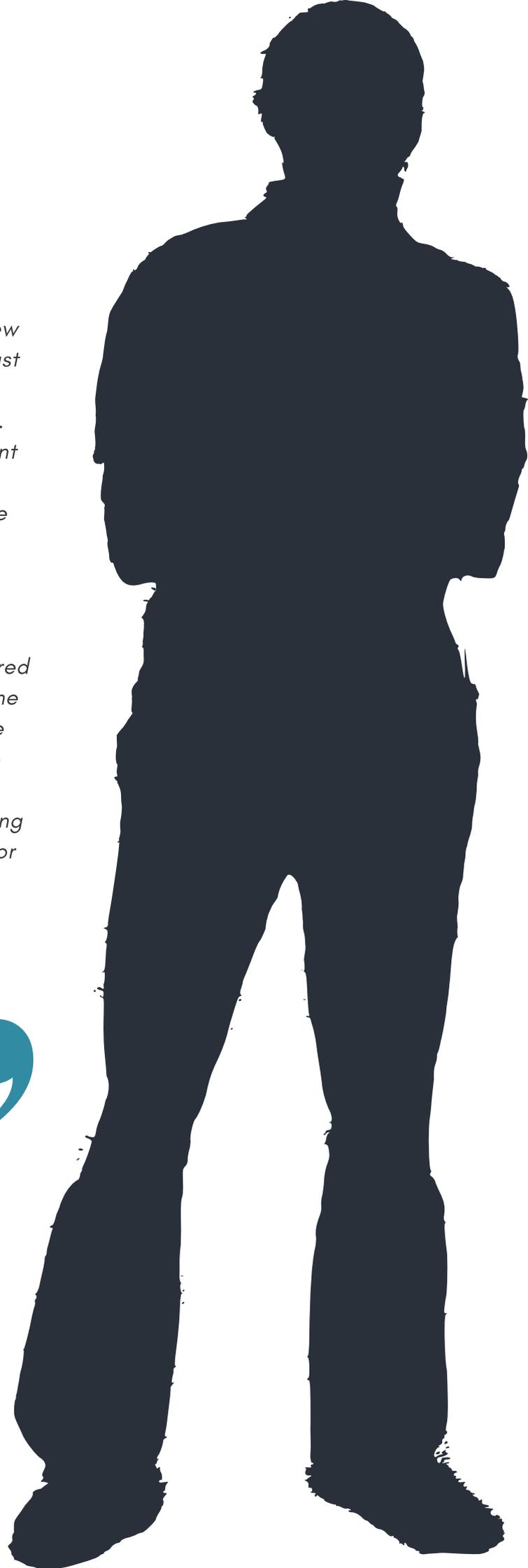


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Male, 25

I need a specialized healthcare - this I knew for a while now based on my symptoms. Last February (in 2019), I decided to follow through with consultation with a specialist. So I looked up where to go online, and went to private clinic with that specialty. There weren't a lot of options, so I just picked the only one that showed up. From there, they told me to go to the state hospital that specialized in it. So I went there, but even though I live in UB, I am not a resident so I could not get the service there. They referred me to another private hospital. They told me to get tested at another location. All these back and forth process took me about two months, and eventually I got sick of going here and there. I still have not finished doing all the tests and consultations I need to. For me, online search is much easier. It would have saved me so much time. I would probably still go to private clinic, because public hospitals wait it too long, and the process is too cumbersome.

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Female, 58

Last time I needed to get some tests done in order to stay at a state rehabilitation center in Ulaanbaatar. I knew where to go for that in my local area in another town because I know which hospital zone I belonged to. However, the list of tests I needed were not completed because the local center did not have some of the supplies. So I decided to wait until I got to UB to get the rest of them (tests) done. Since I do not live in UB, I had to ask my friends who are in healthcare - who are doctors. They gave me some leads, and I tried to get more information online. I checked on Facebook, but there is not enough information there. I prefer to call by phone to ask anyway. Well, in the end I had to postpone my start day by two days until I had the tests ready. Generally, I come to UB to get specialized healthcare for myself or for my family members like my mother or my husband. But it is hard to find out the information for the services I need. I cannot go to check each hospital and compare to make a choice or make calls to every service I find online. When I come to UB, I usually don't have a lot time to shop for health services, so I would just ask someone who might know and then go from there. I usually end up going to the service from a family or friend referred. So usually it is the first recommended service that I go to. It would be very helpful to be able to see the services and costs and finding that information before going there in-person. Because sometimes, the information someone gave me is wrong, and I have to find another location or make more calls to ask around. But I really do not like information call centers, in my opinion they are very frustrating because they charge a lot of phone credit but do not have enough , updated information.





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Female, 34

One time, my baby niece got sick and it was late - maybe around 11 or 12 at night. We called the ambulance, but they said they would not come (as the symptoms weren't severe enough). So we started to look for 24 hour pediatric ambulance services online. We found a few of them, and looked at their Facebook page, I don't think any of them had a proper website. We tried to make a decision by reading the review on their Facebook page, but could not be sure that the information is reliable. Luckily, one of the review leavers was some I knew personally. So we decided to contact that service because I felt like I could trust it. When an infant is sick, it was very frustrating to not be able to find the information quickly, So after that, I would save contact numbers for health providers I might need for later. I think other people might have some trouble with finding services, but for me, I have a number of friends who are doctors, so I just rely on them to get the information (about health service) I need at a time. If I didn't have those friends, I'm not sure how - I guess I will have to find some information online or on Facebook, which is not the best.

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32



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After waiting and looking for a while, I finally found a taxi from Shargamorit (north of the city on the outskirts or ger area), to have our baby seen by a doctor. We called emergency services, but they would not come and told us to take our baby to the pediatric ambulatory (about 13km from the starting location). We needed to see the doctor, so while on our way there, the police stopped the car and would not let us through (because of lockdown). I tried to explain that my baby is febrile and need to see the doctor urgently, but to no avail. So I had to leave the taxi, and started walking. Never before, I had to walk 2,5km with my four month old with fever in the cold like this.

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Data overview



DATA NEEDS OF THE PROJECT

The C2M2 Ulaanbaatar project aims to make health service information available on comprehensive portal and mobile application, and produce vulnerability analysis of the ger area in Ulaanbaatar. The data needs for each of the project results are described as follows:

HEALTH SERVICE INFORMATION PORTAL

For the health service information portal, the project needs information on all types of health services and pharmacies. This includes locations, and attribute information such as services provided, contact information. This data is intended for the public use, so that the users are able to search, browse, filter and sort health service information as needed. The health services will have the following attribute information:

1. Latitude & Longitude
2. Ownership status
3. Name of entity & owner company
4. Category (15 categories of health services)
5. OSM tags
6. Level (primary, secondary, tertiary etc.,)
7. Type of specialized services (28 types of specializations)
8. Services (list of specific health services provided)
9. Insurance (public insurance applies or not)
10. Wheelchair access
11. Contact information
 - i. phone number
 - ii. website link
 - iii. facebook page
 - iv. Address
12. Opening hours

GER AREA VULNERABILITY ASSESSMENT

For the vulnerability assessment of the ger area in Ulaanbaatar, data on essential urban services, distribution or locations, as well as socio-economic data by khoroo is needed to identify service gaps, and vulnerable communities including:

1. Essential services
2. Air pollution levels
3. Household income by khoroo
4. Population density by khoroo
5. Age and gender demographic
6. Household income level by khoroo
7. Number of people with disabilities
8. Number of single parents
9. Health and Safety Index of Ulaanbaatar (based on main seven indicator theme: environment, infrastructure, health, personal safety, education, income and governance)



EXISTING DATA ASSESSMENT

PROJECT DATA NEEDS	DATA ASSESSMENT
1. Admin boundaries.....	processing
a. province.....	ready
b. soum.....	ready
c. capital city.....	ready
d. district.....	ready
e. khoroo.....	reviewing
2. Road network.....	processing
a. highways.....	collecting
b. paved roads.....	collecting
c. dirt roads.....	collecting
d. pedestrian ways.....	reviewing
3. Transport.....	ready
a. bus stops.....	ready
b. bus routes.....	ready
4. Health services in Ulaanbaatar.....	processing
a. hospitals.....	collecting
b. family clinics.....	reviewing
c. private hospitals.....	collecting
d. pharmacies.....	collecting
e. other types of health services.....	collecting
5. WASH.....	ready
a. water kiosks.....	ready
b. public bathhouses.....	ready
6. Banks.....	processing
7. ATMs.....	processing
8. Food & Fuel.....	processing
a. markets.....	reviewing
b. grocery stores.....	reviewing
c. small kiosks.....	reviewing
d. refined coal sale points.....	reviewing
9. Education.....	processing
a. Schools.....	reviewing
b. Kindergarten.....	reviewing
10. Air pollution levels.....	processing
11. Socio-economic data by khoroo level.....	processing
a. Demographic information by khoroo.....	reviewing
b. Health and Safety Index of Ulaanbaatar.....	reviewing

EXISTING DATA ASSESSMENT

The existing data is tabled below with additional information such as data type, target numbers, data timeframe, data sources and descriptions.

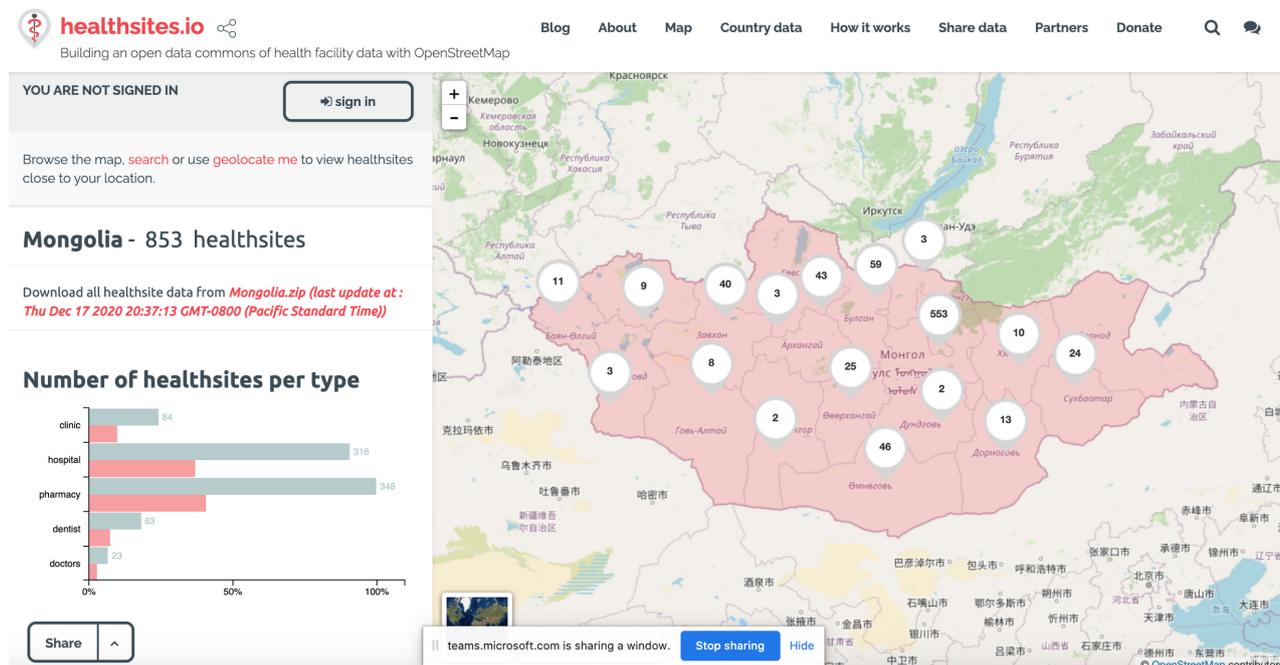
Existing Data						
Local Dataset	Data Type	Existing	Target/Total	Date/Data timeframe	Data Source	Data Description
<i>Example: School enrollment</i>	<i>Tabular</i>			<i>2005-2015</i>	<i>Department of Education</i>	<i>Annual total student enrollment by district</i>
List of health services in Ulaanbaatar	pdf			2020	Public health agency of capital city	list of hospitals, and pharmacies. unclear if the list is complete and up to date.
Hospitals	ESRI shapefile					
Family Clinics	ESRI shapefile	132	131			
Pharmacy	ESRI shapefile	395	996			
Private Hospital	ESRI shapefile	827	1164			
Schools	ESRI shapefile	260	245			
Kindergaren	ESRI shapefile	230	672	2019	Mayor's office of Ulaanbaatar	locations of public schools and kindergartens
Bus stop	ESRI shapefile	980		2019	Mayor's office of Ulaanbaatar	locations of bus stops and bus routes (public transport)
Route	ESRI shapefile	89			Mayor's office of Ulaanbaatar	locations of bus stops and bus routes (public transport)
Water kiosks	ESRI shapefile	915		2014	Mayor's office of Ulaanbaatar	locations of public use water kiosks in ger area of UB
Kiosks/Tuts	ESRI shapefile	411			Mayor's office of Ulaanbaatar	
Public Bath	ESRI shapefile	248			Mayor's office of Ulaanbaatar	locations of public bathhouses for ger area residents
Grosory store-8	ESRI shapefile	828				
Grosory store-6	ESRI shapefile	2095				
ImprovedFuel	ESRI shapefile	463				
Socioeconomic data by Khoroo level					www.1212.mn	
Banks						location of the banks of the capital city
ATM						location of the ATM services of the capital city
Administrative boundary	ESRI shapefile			2020	Mayor's office of Ulaanbaatar	district and khoroo boundaries of the capital city

CHALLENGES

- Some statistical data is found only in pdf format;
- Locations of health services are not included in existing datasets;
- Metadata quality poor or missing;
- Data timeframe are unspecified, outdated or updated irregularly, inconsistent;
- Some data sets are no longer updated;
- Data collection mapathon events are not attended as widely; lack of incentives and established volunteer mapping community;

CURRENT DATA COLLECTION

HEALTHSITES.IO: CURRENT HEALTH SERVICE DATA IN MONGOLIA



SURVEY123 ONLINE SURVEY TO COLLECT HEALTH SERVICE INFORMATION FOR MONGOLIA INCLUDING ULAANBAATAR AND 21 AIMAGS

FRIEDRICH EBERT STIFTUNG **Эрүүл мэндийн байгууллагын судалгаа**

Монгол улсын эрүүл мэндийн байгууллагууд

COVID-19 улмаас үүсч болзошгүй гамшгийн эрсдэлийг бууруулах, бэлэн байдлыг хангах зорилгоор Монгол улсад үйл ажиллагаа явуулж буй эрүүл мэндийн үйлчилгээний байгууллагуудыг зураглах, төвлөрсөн мэдээллийн сан бий болгох зорилготой олон нийтийн оролцоонд суурилсан судалгаа явагдаж байна.

Total health services
Нийт эрүүл мэндийн байгууллага

2,288

Source: Эрүүл мэндийн байгууллагын судалгаа_stakeholder

Hospitals
Эмнэлэг

1,098

Source: Эрүүл мэндийн байгууллагын судалгаа_stakeholder

Pharmacies
Эмийн сан

1,190

Source: Эрүүл мэндийн байгууллагын судалгаа_stakeholder

Technology assessment



TECHNOLOGY ASSESSMENT

I. TOOLS FOR DATA COLLECTION

OpenStreetMap

OSM is an open-source mapping platform that is open to public contribution and edits. The project results will be based on OSM platform.

Data collected on OSM

Ulaanbaatar settlement and infrastructure data is collected through public and group mapathon events organized by Public Lab Mongolia;

Survey123

Survey123 is an online data collection tool, part of ArcGIS software. Public Lab Mongolia has full license for ArcGIS which includes desktop, mobile and web versions.

Data collected on Survey123

Health service information, according to the attribute data list. An online survey is developed and data is being collected through group mapathon events and data entry.

Link to survey: <https://health-services-in-mongolia-2cdarkhan.opendata.arcgis.com/>

II. REVIEW OF TOOLS AVAILABLE

We have ArcGIS, OSM, HealthSites.io, and QGIS tools available.

III. DATA MANAGEMENT

Existing and collected data will be reviewed and uploaded into OSM. All project data will have quarterly back-up activity.

Metadata

We will document the metadata records for existing and collected data on excel sheet. Metadata will be updated with quarterly data back-up from OSM.

Quality control

Final project datasets will be validated by stakeholders, including Ministry of Health, Association of Pharmacies, and districts of Ulaanbaatar.

IV. DATA ANALYSIS SOFTWARE

We will use ArcGIS software to carry out data analysis for vulnerability assessment of ger area in Ulaanbaatar.

V. DATA SHARING PLATFORM

AisaHUB will develop health service information platform and mobile application based on OpenStreetMap. The project data will be uploaded into OSM and made available for stakeholders and users to update the information.

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