

Review

Overview of Novel Corona virus (COVID-19) and its linkage to economy of Nepal

Bijaya Dhimi¹, Shreyashi Bista¹, Bipana Maiya Sadadev¹, Hom Bahadur Chhetri¹, Anju Poudel², Anjana Lamichhane⁴, Asmita Poudel³, Deepak Gautam^{1,5}*

¹Institute of Forestry, Tribhuvan University, Pokhara, Nepal

²Institute of Medicine, Tribhuvan University, Pokhara Nursing Campus, Pokhara, Nepal

³Institute of Health and Management, Melbourne, Australia

⁴Novel Academy, Purbanchal University, Pokhara, Nepal

⁵School of Forestry, Beijing Forestry University, Beijing, China

*Corresponding author

Accepted: 10 May, 2020; Online: 20 May, 2020

DOI : <https://doi.org/10.5281/zenodo.3836903>



Abstract: Corona viruses are single stranded, enveloped group of viruses which contain RNA genomes. Disease caused by SARS-CoV-2 is termed as COVID-19 which has a nucleic acid identical to some of the beta coronaviruses identified in bats. First identified in Wuhan City, Hubei Province, China, it has been causing an outbreak in 210 countries so far with a huge death toll. The disease is seen to be fatal to human health causing symptoms like Sneezing, Runny nose, Cough, Watery diarrhea, Fever in rare cases, Sore Throat, severe pneumonia. WHO has declared the outbreak as pandemic. It has several adverse impacts including downfall of the world's economy. World's GDP is expected to fall by 2.8%. Along with worlds, Nepal's economy may stumble if the outbreak persists for long. Nepal's economy is suspected to be facing a drastic compression as Asian Development Bank (ADB) has prognosticated a decline in GDP to 5.3% in fiscal year 2020, down from 7.1% a year earlier. Prolonged cessation in economic activities will result in permanent loss in the economy of the country. Steps with patience to battle the spread of the pandemic are in urgent need.

Keywords: GDP, Nepal, Outbreak, Pandemic, SARS-CoV-2, RNA Genomes, Economy

Introduction

Viral diseases continue to outburst and mean to cause serious hazard to public health as said by WHO. Extrapolating the past 20 years, various types of viral outbreaks such as Severe Acute Respiratory Syndrome Coronavirus (SARS-CoV) in 2002 to 2003, and the Middle East respiratory syndrome coronavirus (MERS-CoV) in 2012 in South Arabia have been identified

(Cascella et al., 2020). Several viruses have been deteriorating world's health in past centuries. Similar case has been witnessed after years in 2019, a series of Pneumonia like respiratory illness cases having an undefined etiology and unknown factors involved were seen commencing and expanding in Wuhan, China. After a vast and comprehensive analysis of samples of the lower respiratory tract of the cases, the novel coronavirus disease (COVID-19) has been identified as the causative agent of the illness seen in Wuhan, Hubei Province, China beginning in December 2019(Adhikari, 2020). It was previously named as 2019-nCoV (Gennaro et al., 2020). Along with the SARS-CoV outbreak and MERS-CoV outbreak in past years, SARS-CoV-2 is the considered third coronavirus to surface out among human beings in the past two decades which has caught considerable international attention and imperiled the world (Unhale et al., 2020). World Health Organization (WHO) declared the disease which has emerged in the end of 2019 “COVID-19” (WHO, 2020). The coronavirus is affiliated to a kind of virus that possibly causes various symptoms such as fever, breathing difficulty, pneumonia and lung infection (WMHC, 2020). Corona Virus is single stranded with plus strand or positive-sense RNA virus (Unhale et al., 2020). SARS-CoV-2 contains four structural proteins, known as the S (spike), E (envelope), M (membrane), and N (nucleocapsid) proteins (Wu et al., 2020) The specific nucleic acid sequence found in it is quite different from human coronavirus species, are similar to beta coronaviruses that are identified in bats(Yin, 2018).

The incubation period for COVID-19 (i.e. the time between exposure to the virus and onset of symptoms) is currently seen to be between 1 and 14 days (ECDC, 2020). The virus displays severe to asymptomatic conditions. Symptoms like having Sneezing, Runny nose, Cough, Watery diarrhea, Fever in rare cases, Sore Throat, Exacerbated asthma and in exceptionally pneumonia, acute respiratory distress syndrome, sepsis and septic shock (ECDC, 2020; Unhale et al. 2020).

On January 30, it was declared a Public Health Emergency of International Concern by World Health Organization (Adhikari, 2020). About 8565 cases were confirmed from 67 regions outside the boundary of China with 132 deaths, also including significant community transmission occurring worldwide, mostly in Iran and Italy (HSE, 2020). By January 24, 2020, 830 cases were confirmed in nine countries: China, Thailand, Japan, South Korea, Singapore, Vietnam, Taiwan, Nepal, and the United States (Unhale et al., 2020). It was declared a pandemic

as the countries it affected reached 114 with more than 118000 affected cases and the deaths crossing 4000 in March 11, 2020 (Beusekom, 2020). Countries and territories across the globe that have reported COVID-19 have reached 210 with a total of as of April 20, 2020 (Worldometer, 2020). The global pandemic escalated to Nepal from its first case confirmed in Kathmandu on 24th of January, 2020 (Republica, 2020).

Nepal has faced drastic drop in economy in past days too due to disasters like earthquake in 2015. Nepalese economy was seen to have lost the total worth of nearly USD 7 billion (tantamount to 33.33% of total GDP) including both direct and indirect impact of the earthquake, as per estimated by Post Disaster Need Assessment (PDNA) of the Government of Nepal (Gauchan et al., 2015). Similarly, as per the post flood recovery needs assessment extrapolated the loss caused by the floods that occur in Terai regions of Nepal in 2017 was NPR 60,716.6, which is equivalent to 3 percent of Nepal's GDP (NPC, 2017). This review of literature presents data on impact and possible downfall of Nepal's economy due to prolongation and persistence of COVID-19. This article can further be used for analysis by researchers and gives readers a chance to know about the impacts of COVID-19. COVID-19 has already started to bring recession in the World's pace by retarding the economy and it is expected to be engendering worse financial crisis to the world in 2020 (IMF, 2020).

Materials and Methods

Data collection and analysis

Only the secondary literature and newspapers related to COVID-19 and the economy of Nepal published till 20th April 2020 are the major sources of data for this study. World Health Organization (WHO) Reports; Asian Development Bank (ADB) reports and national daily newspapers are the major sources of data. Collected data were qualitatively analyzed and presented well.

Results

After the comprehensive study of the literature related to the COVID-19 and its linkage to economy, following data were obtained. This pandemic is believed to contract GDP by about 7% in first half of 2020, which is approximately double of the downfall that was seen during the global financial crisis (between 2007 and 2009) paving a way for the deep downfall in the overall

global economy (OE,2020).With this dynamic and uncertain size of economic cost of lockdowns, World bank has prepared a report with an estimation that regional growth will fall to a range between 1.8 and 2.8 percent in 2020, down from 6.3 percent projected six months ago, in context of South Asia(World Bank, 2020).

Similarly, in context of Western countries, the economy is expected to be lifted in second quarter of 2020, which will lead to a good reemergence in the end of 2020. In spite of the revival the global GDP is prognosticated to fall by 2.8% overall (OE, 2020). In case of Nepal, as of April 19, 2020 current data of COVID-19 are 9011 tests, 8966 negative, 95 kept in Isolation, 45 cases positive, 7 case of recovery and 0 dead (MoHP, 2020). Nepal’s economy is suspected to be facing a drastic compression as Asian Development Bank (ADB) has prognosticated a downfall of GDP to 5.3% in fiscal year 2020, down from 7.1% in fiscal year 2019(ADB, 2020) as shown in (Fig.1).

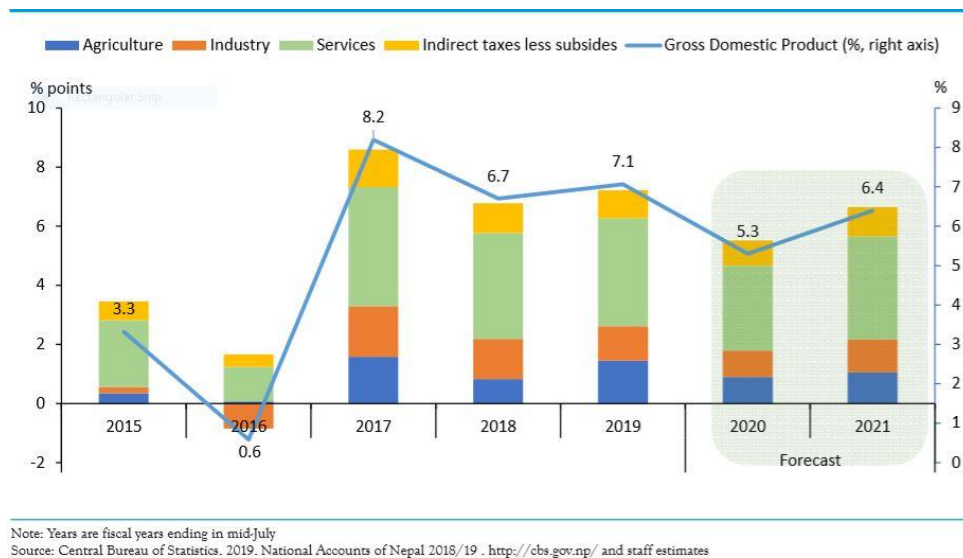


Fig. 1. GDP Growth Rate of Nepal (% per year)

Growth in the economy of the country is fore-predicted to shrink to a range between 1.5 and 2.8 percent in the fiscal year 2020 which will comprise lower remittances, trade and tourism, and broader disruptions caused by the adverse viral epidemic (World Bank, 2020). Three scenarios have been explained by ADB as consequences of lockdown that has been imposed as a response to the outbreak (Table 1 & Fig. 2). The nationwide lockdown imposed from 24 March 2020 has put a temporary abandonment in the economic activities. Only industries producing essential

items such as medical supplies, food and dairy products continued their business operations. Both supply and demand of goods and services has substantially dropped. All the offices are closed except essential services such as healthcare and customs so the domestic and international trade slowed down during the lockdown (ADB, 2020). The first lockdown imposed was assumed to affect the economy by diminishing about 1.0% of GDP. Secondly, the lockdown that has been further prolonged for weeks is assumed to diminish about 1.6% of GDP. Thirdly, the further prolongation of the nationwide lockdown for more than a month along with the rise in COVID-19 cases in Nepal is expected to stumble about 2.0% of GDP (ADB, 2020).

Table 1. Loss Measure in Constant Price (NRs Million)

	Scenario I	Scenario II	Scenario III
Agriculture	1069.8	1663.7	2733.5
Loss as a percentage of sector GDP	0.4	0.6	1.0
Industry	1721.4	3552.2	4234.5
Loss as a percentage of sector GDP	1.3	2.6	3.1
Services	5763.9	8640.1	9982.0
Loss as a percentage of sector GDP	1.2	1.8	2.1
Wholesale and retail trade	1835.1	3145.9	3801.3
Loss as a percentage of sector GDP	0.4	0.7	0.8
Hotel and restaurant	442.8	590.3	664.1
Loss as a percentage of sector GDP	0.09	0.1	0.1
Transport, storage and communications	450.2	2251.0	2701.2
Loss as a percentage of sector GDP	0.1	0.5	0.6
Total Loss (Economy-wide)	8555.1	13856.0	16950.1
Total loss as a percentage of GDP	1.0	1.6	2.0

Source: NRM staff estimates

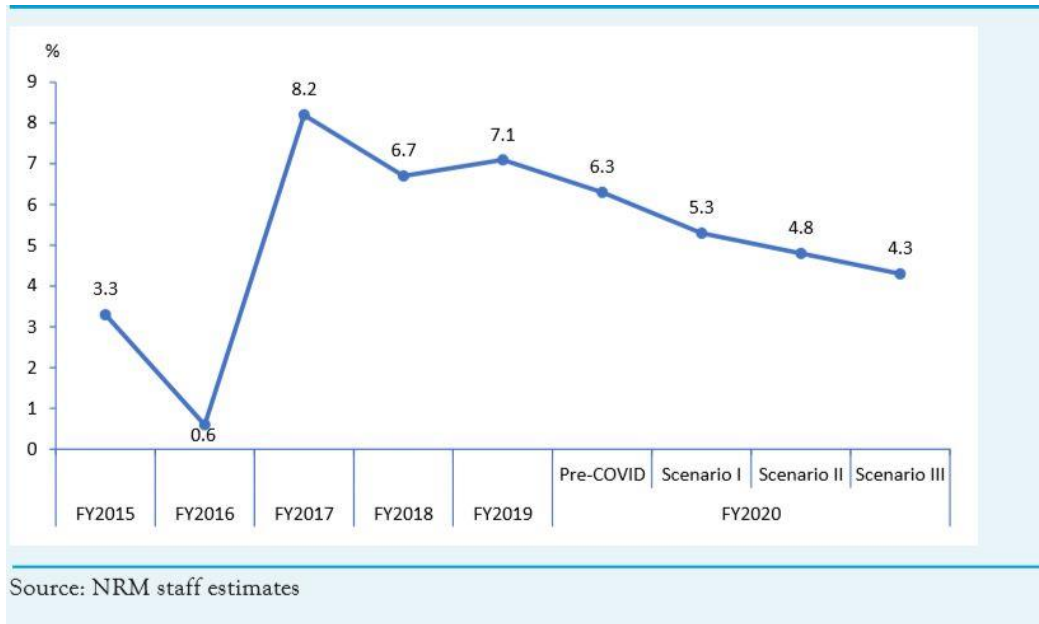


Fig. 2. GDP Growth Rate at Market Price (%)

Growth in deposit collection of banks only showed a growth of 15.5% when it was 21.3% in the fiscal year 2019 (ADB, 2020) as shown in (Fig. 2). Credit disbursement will also be severely affected in the fourth quarter of this fiscal year by COVID-19 pandemic (ADB, 2020) as shown in (Fig. 3).

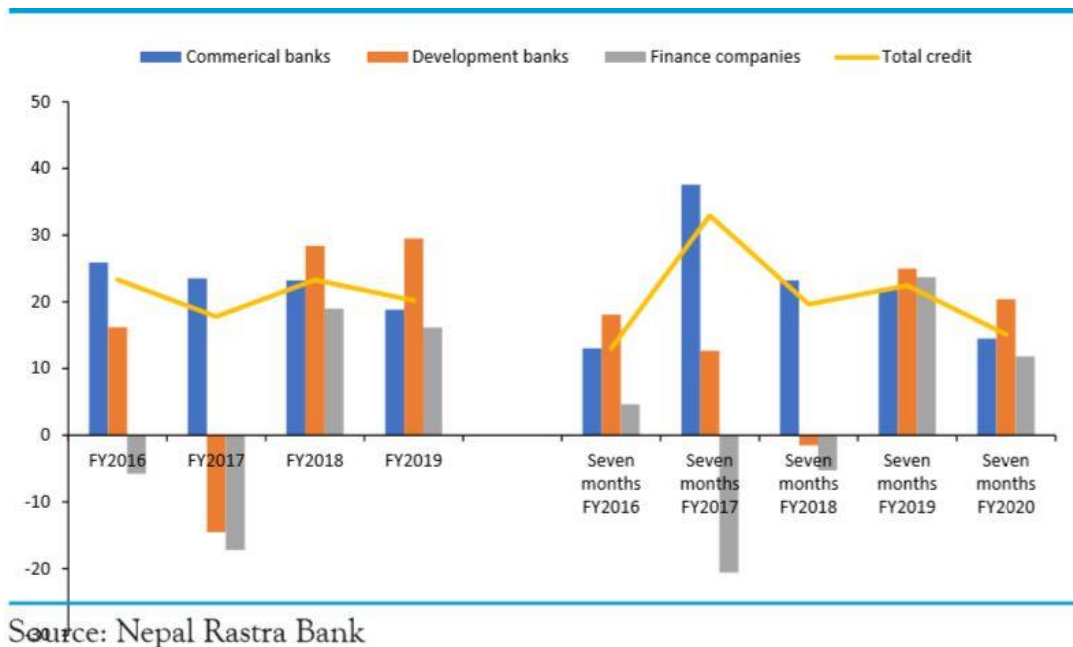


Fig. 3. Credit disbursement of BFIs (y-o-y % change)

Analysis of COVID-19 by ADB also concluded that it can plunge Nepal's hotels and restaurants sector by 0.03% or \$8 million to 0.08% or \$24.07 million, depending on evolution of outbreak. It can lead to amputation of 5,210 to 15,880 jobs in the country, depending on the development and persistence of the pandemic (ADB, 2020). Diminution in tourists' arrival has been seen as a consequence of global outbreak of COVID-19. Tourist arrival in February 2020 were 1.0% already lower than in year 2019 (ADB, 2020) as shown in (Fig. 4). The tourism sector is perceived to suffer a lot due to rapid decline in Chinese tourists along with the temporary cessation in travel globally. Visit Nepal Year '2020' which intended to bring two million tourists in Nepal, twice of the number in 2019 has been postponed following the arrival of the pandemic (The Kathmandu Post, 2020).

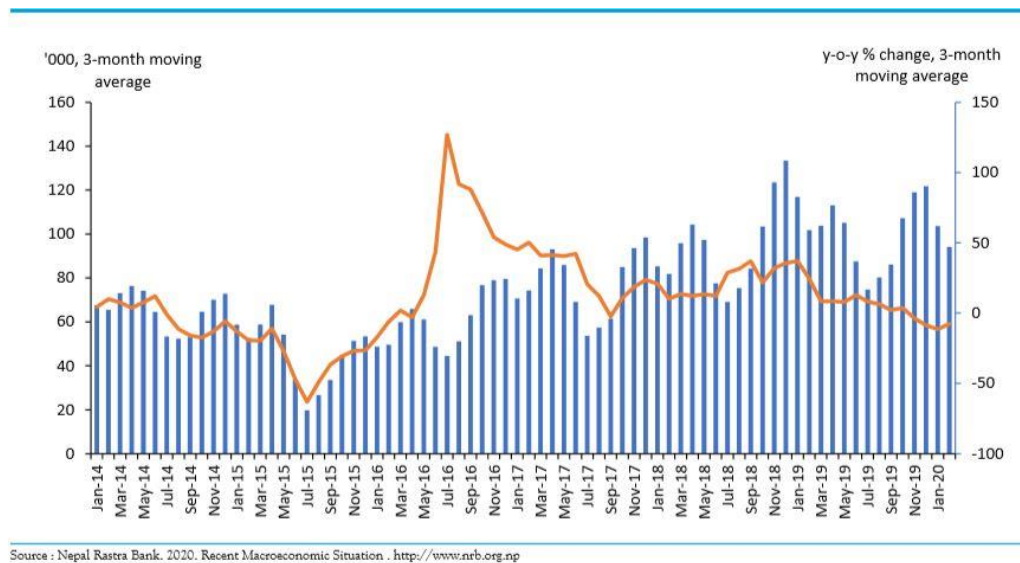


Fig. 4. Tourist Arrival

Average annual inflation will rise up to 6.0% in fiscal year 2020 which was 4.6 % in fiscal year 2019 due to lower productivity and due to disruptions in supply chains due to the COVID-19 outbreak. As of February headline inflation has averaged 6.5% in the first seven months of fiscal year 2020 which is considerably huge than earlier data 4.2%. Inflation in food increased by 9.8% compared to the year 2019 along with the noteworthy inclination in the costs of vegetables, spices, and alcoholic beverages. Temporary abandonments in borders have increased the food prices (ADB, 2020), as shown in (Fig. 5).

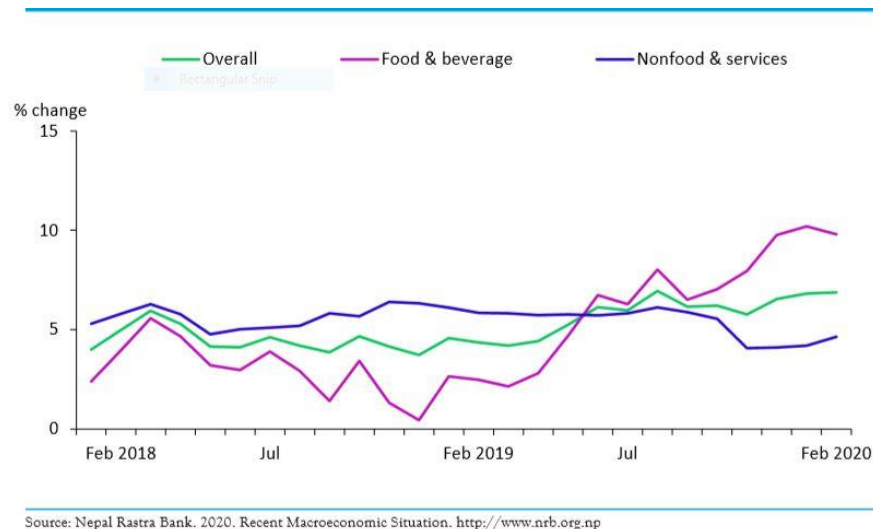


Fig. 5. Monthly Inflation

A protracted outbreak could lead to deceleration in the economic activities in 2020 which in return is expected to undermine the economic growth in 2021 with some recovery expected in fiscal year 2022 (World Bank, 2020).

Discussion

The outburst of Corona Virus has already pushed the world towards adverse suffering and considerable economic turmoil. The world economy is facing vulnerability due to the recession that has occurred from a global massive uncontrolled pandemic COVID-19 (Estrada, 2020). Specifically, In Nepal, with the nationwide lockdown that has been imposed over the country to battle the spread of the pandemic (The Kathmandu Post, 2020), a deep decline in nation's economy is inevitable (ADB, 2020). COVID-19 will affect companies like manufacturing, supply chain and transportation. Mostly Nepal relies on other countries, so high impact will be seen on supply chain and import. The economic and social cost of lockdown and isolation will be higher in Nepal (Koirala & Acharya, 2020). Growth in industry and tourism sector would contract if the economic and financial crisis deepens due to this pandemic. The impact on livelihood of daily wagers and informal workers could be huge if the situation persists for much longer period (ADB, 2020). Agriculture sector which contributes more than one third of Gross Domestic Product (GDP) and employing two-thirds of the country's labor force is pivotal to increase income, alleviate poverty and uplift the living standard of the Nepalese people

(Gauchan, 2008). Due to outbreak Growth in agriculture would contract (ADB, 2020) thus contracting the economy.

Also, credit disbursement of banks and financial institutions are seen to have a sluggish rate in the mid-February of 2020 as a consequence of stumbled demand. Deposit collection has also stumbled owing to a decline in remittance growth and a slow public expenditure in the first seven months of fiscal year 2020 (ADB, 2020).

Country is substantially dependent on remittance received from the Nepalese in foreign countries (Koirala & Acharya, 2020). Remittance is a major source of foreign income for developing countries like Nepal. It is a income that is transferred from international migrants to family members in their country of origin. It represents one of the largest sources of financial flows to developing countries like Nepal (Dhungana, 2012). Remittances contribute nearly 30% of Nepal's gross domestic product. The remittance flow will be affected badly for next one year after the revival of economy and the effect will be seen till next 5 years (Koirala & Acharya, 2020). As the labor market in the Middle East are suffering from this pandemic all the Nepali workers have been ceased which will have a detrimental effect on Nepal's economy. As India as decided to sealed all of its borders, it has led to shortages of commodities. In recent days, people have resorted to panic buying and hoarding of daily essentials (Asia Times, 2020).

International trade will be adversely affected with the temporary closure of borders. Only essential goods such as food and medicine are being imported. Commodity prices particularly of food and beverages have risen on account of supply chain disruptions (ADB, 2020).The outbreak has led to inflation in food products. Even 10 percent inflation in food prices will probably increase overall poverty in Nepal by 4 percentage points (Shrestha & Chaudhary, 2012). This implies the outbreak could impoverish Nepal.

The situation is much worse to people whose source of primary income comes from airlines, hotel and restaurant industries in Nepal especially in tourism sectors. Due to cessation in tourist arrival, these businesses have closed down (Koirala & Acharya, 2020). Likewise, the wholesale and retail sector which contributes 14.37 percent to the economy is expected to stumble due to decrease in imports from China following the outbreak of the disease. China is considered as the second largest trading partner for Nepal after India and a large number of retail goods are imported from China (The Kathmandu Post, 2020). However, the magnitude of the economic

impact will depend on the evolution, development and persistence of outbreak, which remains highly unpredictable.

Conclusion

If the disease proliferates violently, it could directly lead the country towards destruction. If the lockdown goes on escalating in this rate, sustenance of nation will certainly have a pitiful plight. Decline in the manpower and raw materials could lead to the shortage of fundamental goods such as food stuffs in a foreseeable future. Continuous monetary inflation for an unpredictable period of time will be prohibitively expensive for an average Nepali citizen to attain. Cessation in the export of local materials and employment opportunities for labor shows a proclivity towards tremendous downfall of economy of an individual as well as the whole nation. The impact on livelihood of daily wagers and informal workers could be huge if the situation persists for much longer period. Similarly, a rapid declination in the numbers of tourists inside the country will have a sharp plunge in the economy of the country. The pervading harsh effect of the disease will paralyze every aspects of the country's wellbeing if not addressed with patience.

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