COVID-19 in Nepal: An Interdisciplinary Perspective

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COVID-19 in Nepal: An Interdisciplinary Perspective

A collection of presentations during the pandemic

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TABLE OF CONTENTS

Chapter 1

Introduction

Sujata Shrestha[1]

The coronavirus disease (COVID-19) pandemic has impacted every country, sector, community, class, and gender. The magnitude of its impact has shaken both developed and developing countries. The healthcare facilities, educational institutions, travel and tourism industries, entertainment, arts and cultures, and transportation sectors are the hardest hit sectors. The livelihood, health and economy of people from different gender, ethnicity, religion is impacted by COVID -19. The first COVID-19 case was reported in the Chinese city of Wuhan on 31 December 2019. The World Health Organization (WHO) declared the disease a public health emergency of international concern on January 30, 2020, and the disease is declared as a public health pandemic on March 11, 2020. The coronavirus is zoonotic in origin and transmitted from animals to humans, but the zoonotic host and the mechanism of transmission are still unclear. The virus is widespread in 223 countries including Nepal (WHO 2020). In Nepal, the first confirmed case of COVID-19 is on 23 January 2020 and the first reported death is on 16 May 2020. As of 16 August 2021, a total of 734,838 confirmed cases of them 685,140 had recovered and 10,327 had lost their lives, the number of confirmed cases has been increasing in Nepal.

Due to the rapid transmission rate of the virus from one person to another person, the Government of Nepal had announced the nationwide lockdown starting from 24 March 2020 to prevent the person-to-person transmission. Domestic and international travel was restricted, schools were closed, the mass gathering was restricted to prevent the virus transmission that has impacted many sectors. On the other hand, it had opened the opportunity to work distantly, teach online courses and share the knowledge between scholars from different countries through online platforms.

When physical gathering was halted by the Government of Nepal during the COVID-19 pandemic, Global Institute for Interdisciplinary Studies (GIIS) organized a series of webinars from 18 May to 24 August 2020 to share the knowledge about the various aspects of pandemic and its impacts on different sectors of Nepal. The webinar series covered the following dimensions of COVID-19: 1) COVID-19 pandemic in the framework of biological invasion, 2) economic impacts of COVID-19 on tourism and remittances, 3) preparedness of Nepalese health system to combat COVID-19, 4) rethinking governance amid pandemic, 5) international migration from Nepal in the post-COVID-19, 6) impacts of COVID-19 through gender perspectives, 7) health impacts of COVID-19 from gender perspectives, 8) gendered impact of COVID-19 to research, 9) models, scenarios and trends of COVID-19 in local to global scenarios, 10) effectiveness of face mask to prevent SARS-COV 2 transmission, 11) household energy consumption and adaptation behaviors during the pandemic, 12) monsoon induced disaster play double whammy during the COVID-19 pandemic, 13) COVID-19 related health research in Nepal, and 14) pandemic and environmental change. This document is prepared based on the talks delivered in the webinar. We received six papers from the presenters related to the environment, remittance, health, and gender aspects of COVID-19. Each paper was peer reviewed and presented as a single chapter in this book.

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This chapter is an introduction. The second chapter deals with the interface between biological invasions and pandemic including the COVID-19. Biological invasions are one of the major negative impacts that humanity has on the earth's environment. Biological invasions begin with the introduction of any organism outside of its natural habitat through direct or indirect human activities. It has significant negative impacts on natural biodiversity and the environment including the health of humans and wildlife. Despite having several distinctive features, the pandemics can be considered as a special type of biological invasions. This chapter highlights the tradeoffs and synergies between biological invasions and pandemics and provides future options for addressing these problems.

The third chapter examines the key characteristics of international labor migration and Nepal's domestic contexts to contemplate the future of labor migration from Nepal in the Post-COVID-19 world. Nepal is one of the top remittances receiving countries in South Asia and significantly contributes to the rural economy and society. Many rural villages have turned into "remittance villages" and many families are making "remittance livelihoods". However, pandemic seems to disrupt the international labor demand, wage cut, job losses, and disturbance in international remittance flow. This chapter provides the transnational labor migration context and foreign employment policy of Nepal and the way forward to restrain labor outmigration.

The fourth chapter deals with COVID-19 related health research in Nepal. It provides the major functions, duties, and powers of the Nepal Health Research Council (NHRC) and the activities carried out by NHRC on COVID-19 related health research in Nepal.

The fifth chapter talks about the impact of COVID-19 from a gender perspective. From history, gender norms, roles and values differentially affect women and men. Especially, women are more vulnerable and at-risk to any kind of economic shocks, disasters, natural calamities, and epidemics and pandemics. Women suffer from unpaid care burden, loss of economic livelihood and increased domestic violence. In that context, this chapter provides an overview of how women are affected by the pandemic in the world and Nepal.

Chapter 6 offers an overview of the impacts of the pandemic in academia through a gender lens. To address the risk posed by COVID-19, different countries took different safety measures such as closing schools, operating online classes and arranging people to work remotely from home. It turned home into an intersection of daily lives, school and workplace. While the academic fathers faced an impact of the confinement, the mothers were heavily affected due to the unequal gender roles at home. This chapter highlights the problem faced by female academicians during the pandemic and short term and long-term effects of it on the progress of the female academician in the future.

Chapter 7 provides the health impact of covid through gender perspective especially focused on the context of Nepal. The COVID-19 has affected human health directly through morbidity and mortality, and indirectly affecting the mobility of people, disrupting health care delivery and affecting food and nutrition of people. Both women and men are affected by COVID-19, but biology and gender norms are shaping the disease burden such as increased household chores and care of family members, increased domestic violence, and disturbance of their sexual and reproductive health services as well as prenatal and postnatal care, and increased mental illness.

Chapter 2

COVID-19 and Other Pandemics in a Framework of Biological Invasions

Bharat Babu Shrestha[2]

1. Biological invasions

Biological invasions are one of the major negative impacts that humanity has on earth's environment, together with other impacts such as the land and sea use changes, direct exploitation of organisms, climate change, and pollution (IPBES 2019). A Biological invasion is a process that begins with the introduction of any organism outside of their natural distribution range through direct or indirect human activities. During this process natural biogeographic barriers (e.g., ocean, high mountains, large desert), which are otherwise insurmountable, are crossed by the organisms with the help of humans. Tens of thousands of species have been introduced outside of their native range intentionally for forestry, agriculture, floriculture, pet, game and aquarium purposes. Equal number, perhaps more, of the species have been transported outside of their native range accidentally as contaminants of traded materials (e.g., food grain contaminated by weed seeds) or hitch-hiked by human and transport means such as the ship and airplane. These species in the introduced range are called alien (or exotic) species. There are some alien species that have a huge contribution to agriculture and forestry production. For example, potato and maize are the native to South America but they are cultivated for food widely in Africa, Europe, Oceania and Asia including Nepal where they are aliens. However, a small number of alien species, introduced whether accidentally or intentionally, establish their population in a natural environment (wild), spread rapidly, and have significant negative impacts to native biodiversity and environment including health of human and wildlife. These harmful alien species are called invasive alien species (Convention of Biological Diversity, https://www.cbd.int/invasive/terms.shtml, accessed on 3 Oct 2020). For example, lantana (*Lantana camara*) is a native of South America which was introduced to South Asia more than 200 years ago as a garden plant (Kannan et al. 2013). From gardens, Lantana escape and establish in the wild with subsequent rapid spread and devastating impacts on forest and other natural ecosystems. Impacts of these invasive alien species include species extinction and biodiversity loss, reduced ecosystem services, direct and indirect economic losses (in agriculture, forestry, etc.), and risk to human and wildlife health (Rai and Singh 2020). Expanding global trade and travel has contributed to a continuous increase in the number of invasive alien species in all continents including Arctic and Antarctic regions of the earth. Impacts of these alien species have recently been exacerbated by the climate changes (Bellard et al. 2013).

2. Pandemics

Pandemic refers to an outbreak of an emerging infectious disease of human that spread over a wide geographic area (often in multiple continents) and affects an exceptionally high proportion of the population (modified from Merriam-Webster dictionary, https://www.merriam-webster.com/dictionary/pandemic, accessed on 17 May 2020). Some notable pandemic diseases of humans are Black death

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(Bubonic plague), Spanish flu, HIV/AIDS, Swine flu, COVID-19, among others. This kind of disease is also common among animals and plants. A disease condition similar to pandemic that affects animals of many species over a wide area is referred as panzootic. For example, chytridiomycosis (caused by a northeast Asian native fungus *Batrachochytrium dendrobatidis*) is a major cause of a global decline of amphibians (O'Hanlon et al. 2018). A similar damage to kiwi fruit in multiple continents by bleeding canker disease (caused by a bacteria *Pseudomonas syringae* pv. *actinidiae*) has been also reported (McCann et al. 2017).

Pathogens that cause human pandemic and other infectious diseases evolve either in the environment or in animals (i.e., zoonotic origin). In environmental origin, non-pathogenic microorganisms may undergo natural genetic changes leading to the origin of pathogenic (virulent) microorganisms. For example, environmental origin of pathogenic bacterium *Vibrio cholerae*, a causative agent of cholera, has been reported (Shapiro et al. 2017). Majority of human infectious diseases including pandemic disease are zoonotic in origin (Table 1). About 60% of 335 emerging infectious diseases (a subset of them is pandemic) that spread between 1940 and 2004 in the human population were zoonotic in origin, and about 72% of zoonotic originated from wildlife (Jone et al. 2008). Increasing incidences of zoonotic diseases in humans are largely attributable to increasing direct interactions of humans with animals including wildlife due to expansion of human-modified ecosystems at the cost of natural habitats (Gibbs et al. 2020), and through wildlife trade (Bell et al. 2004; Can et al. 2019).

Table 1. Some examples of zoonotic origin of human infectious diseases

Name of infectious disease	Causative agent	Transmission pathway to human	Region of origin
Plague	*Yersinia pestis* [Bacteria]	Rat to flea to human	Asia
Spanish flu	H1N1 influenza A virus	Pig to human	North America and Europe
Acquired immunodeficiency syndrome (AIDS)	Human immunodeficiency virus (HIV)	Chimpanzee to human	Africa
Severe acute respiratory syndrome (SARS)	SARS associated corona virus (SARS-CoV)	Bat?/Civet? to human	Asia (China)
Middle East respiratory syndrome (MERS)	MERS corona virus (MERS-CoV)	Bat/Camel to human	West Asia (Saudi Arabia)
Hendra virus disease	Hendra virus (*Hendra henipavirus*)	Bat to horse to human	Australia
Coronavirus disease 2019 (COVID-19)	Novel coronavirus (SARS-CoV2)	Bat?/Pangolin? to human	Asia (China)

3. Similarities and dissimilarities between biological invasions and pandemic

Biological invasions and pandemics both are human associated biological phenomena. During biological invasions, species cross biogeographic barriers with the help of humans and may pass through the subsequent stages such as introduction, establishment and finally spread in a wide geographic area as invasive alien species in the introduced range (Table 2, Blackburn et al. 2011). In pandemic of zoonotic origin, pathogens cross evolutionary, genetic or compatibility barriers and transmit to humans when human interact closely with their animal hosts (i.e. Spill over) (Hatcher et al. 2012). Subsequently, the pathogen may persist among human populations in areas where spill over occurs (Local persistence), a situation called epidemic. From such a small area, the pathogen spread into a large area, often more than one continent, through human movements leading to pandemic situations like COVID-19. Over time and space, the frequency of both invasive alien species and pandemic diseases have increased, mainly due to environmental changes, expanding trade and human movements, and demographic/evolutionary changes of the species in question (Table 2,

Hatcher et al. 2012). Both invasive alien species and pandemic pathogens travel around the world following modern transport facilities, trade, and human movements.

Table 2. Comparison of the attributes associated with biological invasions and pandemic (Hatcher et al. 2012)

Attributes	Biological invasions	Pandemic
Barrier for dispersal/disease spill over	Biogeographic barriers (e.g., ocean, high mountains)	Evolutionary, genetic and compatibility barriers between primary animal hosts and human
Stages in origin and spread	Transport – Introduction – Establishment - Spread	Contact – Spill over – Local persistence – Pandemic spread
Frequency over time and space	Increasing	Increasing
Major drivers of increasing frequency	Global rise in trade and travel, environmental changes (e.g., land use/sea use, disturbances)	Environmental changes (e.g., deforestation, human encroachments to nature), wildlife trade, evolutionary changes
Interactions between biological invasions and pandemic	Efforts to control invasive alien species being hampered by spread of pandemic diseases	Increased risk of zoonoses due to invasive alien animal species (e.g., pig, rat)

There are also some differences and similarities of management responses to the biological invasions and pandemic. Management responses vary with stages of biological invasions and pandemic disease origin and spread (Table 3). The most striking similarity between these two phenomena is early detection and rapid response (EDRR) to the established population of invasive alien species (Biological invasions) and local persistence of pathogens in the human population (Pandemic). Containment, if not eradication, of invasive alien species and pathogens at this stage prevent their spread into the rest of the vulnerable areas and human populations, respectively. Once the invasive alien species and pandemic disease are widespread in a large area, their impacts and management cost would be quite high, with limited management success in some cases.

Table 3. Management responses to biological invasions and pandemic (modified from Hatcher et al. 2012)

Stages	Biological invasions	Pandemic
Transport/Contact	Transport control, phytosanitary measures, quarantine screening, biosecurity risk assessment	Stopping illegal wildlife trade, regulation of legal trade of live animals, reduction of human-wildlife interactions, awareness
Introduction/Spill over	Screening, monitoring	Vaccination, reduce pathogen population in primary host
Establishment/Local persistence	Early detection and rapid responses, management of dispersal corridors	Early detection and rapid response at epidemic stage (e.g., travel restriction and lockdown in Wuhan for COVID-19)
Spread/Pandemic	Control measures to reduce population of invaders, habitat management (e.g., minimizing disturbances)	Travel restriction, control measure at bottleneck (e.g., airport), isolation of vulnerable and infected; social distancing

4. Future options for addressing biological invasions and pandemic diseases

A brief account presented in the preceding sections has revealed that there are several fundamental similarities between biological invasions and pandemic disease spread, and that both processes have increased over time, possibly at higher rates in future. Efforts made in the past to address these problems separately appear to be inadequate. Given the complex interactions between factors and processes associated with biological invasions and pandemic diseases, previous research and conceptual frameworks have suggested a need for integrated and transformative management interventions to effectively address these highly wicked problems in future. Below are some

major options to minimize the rate of biological invasions and the emergence of pandemic diseases.

A. Trade regulation

Trade related activities not only provide pathways for the invasive alien species to cross natural biogeographic barriers but they also facilitate transmission of zoonotic pathogens directly or indirectly from primary host to humans. Stringent measures for the enactment of quarantine and biosecurity rules, particularly in developing countries where they have been poorly implemented, can prevent introduction of potentially invasive alien species. Enhancing local production and minimizing dependency to the global market for the supply of forestry and agriculture products will minimize the risk of the introduction of invasive alien species (Otero et al. 2020). Both legal and illegal trade of wildlife and domesticated animals (live animals and their parts/products) have increased the risk of pandemic disease emergence (Can et al. 2019, Borze et al. 2020). Therefore, scientists have called upon for a complete ban on illegal trade of wildlife through enactment of existing regulations, improvement of market biosecurity regarding the wildlife trade, and strong quarantine screening of legally traded animals (Borze et al. 2020, Daszak et al. 2020).

B. One Health approach

Discussed for more than a decade, the One Health concept was initially proposed and populated by veterinary scientists to foster collaboration among physicians, veterinarians, wildlife specialists, environmentalists, anthropologists, economists and sociologists, among others, to prevent and control zoonoses (Gibbs 2014). However, in recent time, the concept has been expanded beyond human and animal health to plant, ecosystems and overall environmental health of the earth – the shared habitat of millions of species, known as planetary health (Settele et al. 2020). In other words, the One Health concept now relies on "the notion that human, animal and ecosystem health are interrelated and that holistic approaches encompassing all three components are needed to respond to threats to human well-being" (Ogden et al. 2019). This clearly reflects interdisciplinary and trans-disciplinarily nature of the concept and a need of a common framework and understanding of the natural worlds and components therein among diverse disciplines for effective translation of the One Health concept into action (Antoine-Moussiaux et al. 2019).

C. Half Earth initiative

Half Earth initiative is a call to keep half of the earth with us - the humans and keep aside another half of the earth to rest of the millions of other species inhabiting earth. Need of Half Earth protection has been advocated by many conservationists including legendary conservation scientist Edward O Wilson to slow down the current alarming rate of biodiversity loss due to anthropogenic pressure on earth's environment (Wilson 2016, Dinerstein et al. 2017). Dinerstein et al. (2020) also argued that protection of Half Earth not only reverses the further loss of biodiversity but also stabilizes earth's climate by reducing carbon emission from land conversions and by enhancing natural carbon removal from the atmosphere. Protection of Half Earth reduces areas under high anthropogenic disturbances, thereby reducing the probability of the establishment and spread of the invasive alien species. Temporal and spatial extent of human-wildlife interactions may also be reduced when the Half Earth is protected, leading to a lower probability of zoonotic disease transmission than in the current situation. It is because the diversity of wildlife hosts that share pathogens and parasites with humans is found to be higher in human dominated landscapes than in the nearby natural ecosystems (Gibb et al. 2020). In a nutshell, humans and earth will be benefited from protection of the Half Earth through reduced rates of biodiversity loss, biological

invasions, and zoonotic disease emergence.

D. Managing human population and economic growth

Expanding human population (in terms of population size and per capita environmental impacts) and race for high economic growth are at the core of all anthropogenic activities leading to widespread and unprecedented human impacts on earth's environment. Nearly 50 years ago, Ehrlich and Holdren (1971) warned that any delay in controlling human population would lead to a situation when "most of the "easy" means to reduce per capita impact on the environment will have been exhausted" in a few decades to come. Unfortunately, the human population continues to increase over the decades due to absence of stringent efforts and political commitments to control human population. How can we manage environmental problems without managing the human population itself? Future population growth rate can be reversed (i.e., negative) by implementing socially and legally acceptable measures when there are political commitments. Positive impacts of reduced human activities on earth's environment have been apparently clear in many parts of the world when lockdown was enforced by many countries around the world in response to COVID-19 pandemic. For example, significant improvement in water and air quality, reclamation of habitat by wildlife, and reduction in carbon emission during lockdown have been reported (Arora et al. 2020, He et al. 2020, Le Quéré et al. 2020), though they seem to be transient because the situation would revert back as soon as the current COVID-crisis will end. It can also be anticipated that the rate of transport and introduction of alien species would have also slowed down during the lockdown period, though the information on this aspect has not been published yet.

In addition to population growth, the current environmental and human health crisis such as the COVID-19 are also the results of a race among countries for high economic growth. Settele et al. (2020) argued that the recent pandemics including COVID-19 are the consequences of "our global financial and economic systems, based on a limited paradigm that prizes economic growth at any cost". It has been also realized that the *business-as-usual* economic growth and biodiversity and environmental conservation cannot go together (Otero et al. 2020). Therefore, it is necessary for shift from GDP based economic growth model to environmental and human well-being through transformative changes in policies that regulate land use change (e.g., restriction on urban expansion); regulate international trade (e.g., limiting the amount of imported goods and services; labelling/categorizing products based on environmental/biodiversity footprint), among others (Otero et al. 2020). Deprioritization of economic growth for the 'well-being' of citizens and environment has already begun in New Zealand (Peat 2019).

5. Conclusions

Biological invasions and pandemics (including Panzootic) are the results of the activities of a single species – *Homo sapiens* – but have significant impacts to the global environment and thousands of other organisms. These two phenomena are the important components of the Anthropocene – a geological period of earth characterized by dominant roles of human on modifying global phenomena (e.g., species dispersal) and chemistry of biosphere. In spite of some differences, biological invasions and pandemic have several common features; therefore, one discipline can learn from another to effectively manage both these problems. The more we exploit natural resources and degrade habitats that we share with millions of other organisms for economic growth, the more are the negative feedbacks of nature thereby putting the existence of humanity on earth at even greater risks. Therefore, it is high time to develop and implement integrated, coherent, and transformative global strategies aimed at reversing the process of global environmental

degradation for the benefit of planet Earth, and the millions of organisms including humans. Scientists and experts have put forward fascinating options, some discussed above, to address the global environmental and health problems including biological invasions and pandemics. Relying more on scientific knowledge, which itself evolves and refine over time, than on political and economic interests will help to address global environmental (e.g., biological invasions) and health (e.g., pandemic) problems effectively.

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Chapter 3

Transnational Labour Migration from Nepal in the Post-COVID-19 World

Ramesh Sunam[3], Dipak Bishwokarma[4], Thaneshwar Bhusal[5]

Abstract

The COVID-19 pandemic has disrupted transnational labour migration. Unsettling Nepal's 'remittance economy', the pandemic and economic fallout has posed severe risks to the livelihoods of Nepali migrant workers and their families. Nepal is already witnessing a return of migrant workers from foreign countries, mostly irregular Nepali migrants and those losing jobs. In this paper, we briefly examine some of the key characteristics of international labour migration and Nepal's own domestic contexts to contemplate the future of labour migration from Nepal. In the next few years, with movement restrictions and financial stagnation in labour destination countries including the Gulf Cooperation Council (GCC) and Malaysia, labour migration from Nepal may decline. However, we argue that given that Nepal is minimally prepared to reintegrate migrant returnees into its social and economic spaces, it is unrealistic to assume that foreign labour migration may not resume soon after the revival of global economies. Furthermore, we foresee that the government of Nepal exhibits a potential to utilise this crisis to restrain labour outmigration with focused policies for rural transformation while addressing the critical push factors of migration. The agriculture sector provides tremendous opportunities for transforming Nepali 'remittance villages' to (re) engage both prospective migrants and migrant returnees for enhancing their livelihoods.

Introduction

The COVID-19 pandemic and the ensuing economic fallout has unsettled the 'remittance economy' of Nepal, where remittances amounted to around 28 percent of GDP in previous years (World Bank 2020, Pandey 2020, Seddon et al. 2002). Nepal received $7.8 billion in 2018/19 and was ranked as the top remittance-receiving country in South Asia and the 5th largest in the world as a share of gross domestic product (GDP) (Pandey 2020, World Bank 2019a). It is estimated that one in five working-age Nepalis (15-64 years old) are engaged in transnational labour migration (TLM) and are supporting the country's economy along with sustaining their families (Sunam 2020a). With growing inflows and significance of the remittances for rural economy and society, many rural villages have turned into 'remittance villages' and many families are making 'remittance livelihoods' (Sunam 2020a). However, the COVID-19 pandemic seems to disrupt the international remittances inflows. The World Bank has projected that low- and middle-income countries are expected to lose about 20 percent remittances in 2020 with 14 percent remittance decline in Nepal compared to 2019 (World Bank 2020). Despite the dismal projections, the inflows of remittances remain steady or is even increasing at times over the last few months. This trend may be attributed to a recent decline in transactions through the informal remittance transfer channels (e.g.,

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Hundi). Nevertheless, the country has been facing public health and economic crisis due to the COVID-19 pandemic triggered travel restrictions. It has created adverse effects on the lives and livelihood of the poor and vulnerable communities including Dalits, women, and marginalized ethnic groups; and those engaging in daily wage laboring and informal sectors.

Experiencing losses of their jobs, wage reductions and working hours, Nepali migrant workers in many destination countries are being hit hard from the COVID-19 pandemic. The International Labour Organisation (ILO) has suggested that the pandemic has posed risks to livelihoods of about half of the global labour force, particularly those working at the lower end of the labour markets (ILO 2020). Most Nepali migrant workers represent those vulnerable. They have been enduring more precarious situations in foreign countries since the beginning of the pandemic and are bearing the brunt of the global economic crisis. Many are stranded overseas waiting to return back home. Around 600,000 Nepali migrants are expected to return to Nepal from 37 destination countries including more than 400,000 from seen major Gulf Cooperation Council (GCC) countries and Malaysia (FEB 2020a). Moreover, it is estimated that about 1.3 million Nepalis are willing to return home including those from India (Baniya et al. 2020). In fact, it is not the first time that TLMs have been disrupted which led labour migrants to return home. Migrant workers have faced similar situations during the global economic crisis and inflation in 2007-2008. However, the current crisis is unique it has generated multi-faceted impacts across the globe. The country has been facing challenges on immediate repatriation of stranded labour migrants, supporting their livelihoods, and addressing the critical problems faced in destination countries. At the meantime, it is equally crucial to discuss the future of TLM from Nepal beyond COVID-19.

In this paper, we discuss the future of TLM from Nepal in the post-COVID-19 context. In the next few years, labour migration from Nepal may decline with movement restrictions, financial stagnation and halting of many infrastructure developments projects in labour destination countries, including GCC countries and Malaysia. Nepal would see a return of international migrant workers, mostly irregular migrants and those losing jobs. However, the future of labour migration from Nepal will depend on a) how global economies revive in the aftermath of the pandemic, b) how the characteristics of international labour markets change, and c) Nepal's own domestic contexts. We have analysed the key characteristics of global labour markets, particularly Asian, where most Nepali migrant workers are employed, and Nepal's own domestic context. This paper further discusses key policy considerations for managing TLM from Nepal.

Key features of the international labour markets and the pandemic

> *"A pandemic is akin to a war. Countries can recover surprisingly fast with the right policies, but the poorest will need help"* (Banerjee and Duflo 2020).

While the reconfiguration of TLM remains to be seen, it is important to revisit the key contexts and characteristics of labour markets under which TLM takes place to contemplate its future. First, global capitalism largely thrives on cheap and flexible labour, which is being supplied to many destination countries and companies specially from low-income countries including Nepal. Through cheap labour and 'disciplining' migrant labour, local and global companies are making a profit (Rigg 2015, Standing 2011). However, the current economic crisis may compel some companies to shut down their factories or relocate to a different country. It could reconfigure the geography of labour markets with a possibility of drying up existing job opportunities in some destination countries while springing up similar or new job markets in other countries. Similarly, some

companies might be encouraged to employ improved technology with automation in the post-COVID context which would crowd out some kinds of job opportunities. However, the scale of a reduction in manual work and labour demand (due to automation) remains unclear. Nevertheless, corporations' hunger for cheap labour and exploitation may remain in the post-COVID-19 era, indicating a persistent need for migrant labour when economies bounce back.

Second, the nature of the TLM suggests that migrant workers are provided elementary, manual jobs at the lower end of labour markets in the manufacturing, construction, services and agriculture sectors. Given the segmented labour market, these jobs are usually described as 3D work (difficult, dangerous and demeaning) and 3L job (low pay, low skill and long hours) in which the natives or citizens of destination countries are reluctant to engage in. So, it is unlikely that such jobs will be entirely taken up by the natives in the post-COVID phase. The economic slowdown and declining oil prices have hit GCC countries and Malaysia, where most Nepali workers are employed. Migrant workers represent some 30 percent of the total workforce in Malaysia and around 70 percent of the total workforce in GCC countries (Rigg 2015, World Bank 2019b). Given that these economies are heavily reliant on migrant labour, they may need migrant workers even while recovering from the economic slowdown.

Third, many destination countries facing demographic challenges and acute labour shortages are already in dire need for migrant labour. Japan is a case in point. Amidst a rapidly ageing national population and a steadily falling birth-rate, Japan has to rely on migrant labour even to bounce back from the crisis created by the COVID-19 pandemic (Sunam 2020b). Presumably to retain and attract migrant labour to the country, Japan has strategically included migrants in its cash handouts relief packages (the ¥100,000 Financial Aid and the Temporary Loan Emergency Fund) designed for addressing this crisis.

The context of Nepal

We suggest that Nepal has seen four key drivers of TLM: a) lacklustre economic growth, b) agrarian distress, c) limited employment opportunities, and d) increasing disaster events. Many of these problems including livelihood crises, food insecurity and poverty have been visibly intensified by the COVID-19 pandemic. Similarly, going overseas is becoming not only an option to improve family economic status but is deeply cultural in Nepal. Some young people are leaving the country not only because they were unemployed, poor, or otherwise, but to experience '*bidesh*'. Some dream of going overseas and gaining some experience of foreign employment – skilled or under-skilled and permanent or temporary – immediately after they become eligible to obtain a passport. Notably, Nepal seems minimally prepared to engage a bulk of unemployed people and migrant returnees. It is, therefore, unrealistic to assume that foreign labour migration may not resume after the revival of global economies.

Increasing frequencies and degree of disaster impact is another major push factor of TLM. Disasters broadly catalyse land degradation and hence erode soil productivity. It ultimately affects livelihood options and acts as a push factor of migration (Warner and Afifi 2014, Massey et al. 2007). Even amidst COVID-19, Nepal has experienced an increasing number of disaster events such as flood and landslides. More than 500 disaster events including flash flood, landslides, and thunderstorm have been recorded between April-Mid-September 2020 which have claimed more than 700 lives, destroyed millions of properties and displaced thousands of households (NDRRMA 2020). Disasters continue to create conditions for distress outmigration in search of alternative, safer livelihood options.

Policy context

The governance of foreign employment management in Nepal is often contended. Some believe that Nepal's foreign employment

policy has been successful in effectively holding its regulatory embodiment hence *inter alia* contributing to addressing unemployment along with enriching the foreign currency reserve. Critiques, however, argue that such policy measures seem to be ambiguous and contradictory. In contrast to the government's claim of pro-labour policies, the existing policy and legislative frameworks are not sufficiently designed in favour of under-skilled Nepali citizens who migrate accepting poor pay and squalid working conditions.

Two aspects of Nepal's foreign employment policy must be considered for analytical purposes. First, the extent to which Nepali migrant workers abroad are provided an opportunity to engage in the policy process related to foreign employment. In fact, returnee migrants have made efforts to get organized and influence the policy process. Unfortunately, our observation suggests that, the foreign employment policy process has been (re) shaped by so-called experts who generally represent 'manpower' agencies while ignoring the voices of (prospective) migrant workers. Second, while making its policies we find that Nepal has largely failed to adequately factor the context and the policies of destination countries regarding migrant workers.

Nepal's foreign employment policy change in the wake of the COVID-19 pandemic is still uncertain and juvenile stage. So, it has limited our analytical understanding on how and to what extent Nepal's foreign employment management would be impacted in the post-COVID context. However, preliminary governmental initiatives related to repatriation and reintegration provide three diverse yet interrelated insights. The first insight relates to the repatriation policy. As part of the repatriation of Nepali migrant workers to Nepal, some employers have offered airfares while others have provided furlough to the Nepali workers with the hope to retain Nepali migrant workers in their companies. There has been a dearth of any attempts on diplomatic and strategic negotiations with the respective governments and companies in destination countries to ensure any relief or compensatory packages for Nepali migrant workers. Instead, some news reports have highlighted Nepal Embassies in destination countries being unresponsive to the problems of migrant workers.

The second insight concerns available resource mobilization to facilitate migrants to return. The Nepal government has promulgated a directive to expedite the rescue efforts, providing a legislative framework to utilize the Foreign Employment Welfare Fund (FEWF) on airfare payment of expectant returnees. It categorized the migrant workers into three broad categories: i) those who have lost their jobs due to the adverse impact of COVID-19; ii) those who are unable to pay airfare on their own; and iii) those who were detained in the police custody in labour receiving countries (MoLESS 2020). It is commendable to have such a policy directive in expediting the repatriation process. However, the continued disruption of international flights and inadequate number of repatriation-chartered flights mostly from the Gulf countries has halted the process. It has continued to leave thousands of migrant workers in limbo. Moreover, the genuine and needy migrants have not been able to access the FEWF to fund their airfare.

Another insight concentrates on the reintegration process of returnees. There are three potential and interrelated dimensions being highlighted in the existing returnee reintegration policies: a) reintegration into the society/societal reintegration; b) reintegration into employment, and c) reintegration into self-entrepreneurship. The reintegration programs have been designed and delivered through a range of governmental and non-governmental entities but seem of no or little avail.

The other aspect of Nepal's foreign employment, which requires scrutiny, is related to designing a macro policy framework to be specifically implemented by the Foreign

Employment Board (FEB)[6] (hereafter referred to as Board). The Foreign Employment Act (2006) has provided a crucial legislative base for the Board to develop policy instruments in the matters of the welfare of returnee migrants. We observed that the Board has devised specific reintegration guidelines with an aim to launch reintegration programs aiming to address above mentioned all the three re-integration dimensions (FEB 2020b). It is praiseworthy that Nepal government's reintegration directives have included provisions of collaboration with provincial and local governments while implementing the Board-funded reintegration programs. However, the directives are yet to be approved.

The COVID-19 pandemic has offered an opportunity to utilize experience, ideas, and skills of returned migrants for promoting local and economic development. The government has expressed its commitment to use 'social remittances' of returned migrants to realise its political slogan 'Prosperous Nepal, Happy Nepali'. However, the government has yet to announce any substantive relief packages and policies targeting the 'returned migrants' to tap their social remittances. Instead, the government has resumed the issuance of labour permits amid COVID crisis to facilitate TLM for maintaining the remittance economy. In the meantime, numerous news reports[7] have shown that thousands of Nepalis have already returned to India in search of work. However, the government has not made serious attempts to retain them by any means. It indicates a lack of solid vision and policy in tapping on the 'social remittances'.

Policy matters

To address migration issues and promote employment opportunities, we identify *three key areas* where the government, the private sector and non-state actors can focus on.

Creating employment within Nepal: It seems that the pandemic will leave long-term impacts on the domestic labour market. The government has initiated some policy interventions recognizing the need for creating domestic employment opportunities. However, available domestic employment opportunities are still inadequate. In fact, the narrative of internal job market is negative as: a) the conventional economy is yet to be advanced in order to generate more jobs, b) the private sector is insufficiently incentivised to create and increase jobs, c) the public sector is too small to generate more employment opportunities, d) public-private-partnerships are promising but needs to be promoted for creating jobs or developing self-employment opportunities, and e) the federal-provincial-local collaboration is still in its infancy. Existing large-scale government-led employment programs such as the Prime Minister Employment Program could be a milestone on creating more domestic job opportunities. However, such programs have been tokenized and highly politicized. The massive policy and program restructuring will require not only to effectively implement such initiatives but also to sustain them.

Transforming agriculture: As noted earlier, rural areas no longer remain the sites of agrarian production, rather are increasingly

[6] Foreign Employment Board (FEB) is a legal entity formulated by the Nepal Government based on the The Foreign Employment Act (2006) (Article 38). Its main objectives are to promote international labour migration business, to ensure such business secure, organised, and dignified, and to protect the right of international labour migrants and entrepreneurs. The Minister of Labour, Employment and Social Security chairs the board with the representation of senior government officials, international labour migration entrepreneurs, trade unions, international labour migration experts, and institutions working in the sector of international labour migration. (For detail, see: http://www.fepb.gov.np/)

[7] Example: a) https://thehimalayantimes.com/nepal/22000-nepali-migrant-workers-leave-for-india/; b) https://kathmandupost.com/national/2020/07/03/government-starts-issuing-labour-permits-to-migrant-workers-on-job-break-and-with-renewed-contracts

becoming the 'remittance villages'. However, during COVID-19, many migrants are returning to their villages not only from urban areas but also from international destinations. Numerous news reports suggest that many people especially those returned from urban areas have re-engaged with agriculture in the wake of COVID-19. Some rapid assessment reports, released during the COVID-19 crisis, have revealed that about 80% international labour migrants are willing to engage in self-employment, either in agriculture or non-agriculture sector upon their return (NPI and MLab 2020).

The government of Nepal could utilise this crisis as an opportunity to mitigate labour outmigration. It needs to embark on solid policy reforms for agricultural transformation. There, however, remains challenges given that those who are already (re)engaged in agriculture and agri-businesses, including returnee migrants, have been facing several constraints including access to land, credit, technology, and other agri-inputs. First, the government policies should facilitate farmers' access to agricultural land. The price hike and land speculation has hindered agricultural expansion, thereby constraining the development of agriculture-based enterprises. The local government could play the crucial role on ensuring affordable land leasing while also discouraging landowners to avoid leaving the arable land uncultivated. Second, agricultural tenancy reform has long been critically important and urgent. There is growing absentee landlordism and land under-utilisation, and an increasing trend of rural to urban migration, largely triggered by TLM (Ojha et al. 2017). However, the dominant tenancy arrangements – sharecropping and fixed rent tenancy – have been disadvantageous for tenant farmers and pernicious on enhancing agricultural productivity. Finally, the state machinery should be more efficient and facilitative to ensure farmers' access to credit (low interest loans) and technical support. Given the diverse agro-ecological contexts and distinct livelihood patterns across the country, the local government should be at the forefront of policy interventions for transforming agriculture. High value agriculture should be encouraged for enhancing agrarian production. However, balancing subsistence and commercial farming should be a priority as it confers three benefits: reducing food insecurity, minimizing food imports, and enhancing economic development.

Promoting entrepreneurship: The government should be more pro-active on creating favourable milieu for helping people for creating self-employment opportunities. Self-employment and entrepreneurship, although not well appreciated in Nepal as 'foreign employment', have become more popular in recent times. The majority of Nepali youth force appears to pursue TLM rather than exploring self-employment opportunities within Nepal. Some employment policies offer attractive financial and technical packages such as subsidised loan, agricultural assistance program, collaborative investment in small entrepreneurships, and skills transfer schemes, potentially useful for migrant returnees and prospective migrants for self-employment and entrepreneurial initiatives in the country (MoF 2020, Nepal Rastra Bank 2019, Karki 2017). However, implementation remains weak and the outcomes are poor due to excessive bureaucratic hurdles, red tape and corruption, among other reasons.

Conclusion

The post-COVID world may be different but it may not be the one that does not need migrant workers. The pandemic may not significantly transform the global, regional and national contexts under which TLM has been taking place. In the post-COVID world, migrant workers may not be welcomed in some destination countries but will be needed for many economies. The next few years of recovery may witness a decline in labour

migration and remittances. Once economies bounce back, the old trend of TLM from Nepal may resume unless domestic contexts of job opportunities are significantly transformed to engage prospective and returned migrants. Since the agriculture sector provides tremendous opportunities to (re)engage both farmers and return migrants (either from urban areas or overseas), the Nepal government can capitalise on the COVID-19 crisis for producing a vibrant agrarian transformation and rural entrepreneurship. This can help address labour outmigration to a great extent. However, it should be facilitated by solid policy reforms.

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Chapter 4

COVID-19 related Health Research in Nepal

Meghnath Dhimal[8]

Introduction

Health Research is an integral part of health care system and plays a pivotal role in sustainable development of a nation and wellbeing of people. In Nepal, the first regulatory body for health research was established in 1982 by the formation of Nepal Medical Research Committee chaired by the Health Secretary. In 1991, the Nepal Health Research Council (NHRC) established to do, or cause to be done, high-level study and research works on health through NHRC Act 1991 of the Government of Nepal. The major function, duties and powers of the Council are summarized below (GoN 1991):

(a) Subject to the health policy of the Government of Nepal, to do, or cause to be done, study and research works on health within Nepal.

(b) To formulate policies on both basic and applied study and research works on health.

(c) To do research on the health system, biomedical health service, food, behaviour and decency and do, or cause to be done, study on prevention, diagnosis, treatment of diseases and ailments.

(d) To specify priority sectors of study and research relating to health.

(e) To give consent for study and research works on health, fix priority and make recommendation to the Government of Nepal.

(f) To coordinate, guide and assess research works on health and render necessary advice.

(g) To publish and publicize health related knowledge, experience and outputs of research and exchange information at the national and international levels.

(h) To do research works on health within Nepal, and where a research work is to be done in an area where facility is not available, to give approval to undertake some part of research abroad.

(i) To provide prize, scholarship and travel allowance as required to a person or organization who does research on health.

(j) To maintain records of health-related research works.

Using the above-mentioned duties and power of the Council, the NHRC has extensively worked on COVID-19 related health research for evidence generation through following activities (NHRC 2020):

1. NHRC acts as a member of Incident Command System Chaired by Secretary of Ministry of Health and Population for COVID-19 response and Developed National Guideline for Strengthening Evidence Generation on COVID-19. The COVID-19 response plan has also included research as a priority component.

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2. Promoted virtual training workshop on health research methodology. NHRC trained more than 2000 participants during the first lockdown period.

3. Promoted expedited review of COVID-related research projects except for clinical trials for ethical approval through virtual meetings. By July 26, 2020, more than 131 research proposals on SARS-COV-2/COVID-19 were submitted for ethical approval and 105 were approved by the council. NHRC has also given approval to 51 Institutional Review Committees (IRC) in different academic institutions in Nepal which have also approved a few research projects on SARS-COV-2.

4. Evidence generation on COVID-19 through various research projects aligning with WHO Global research priorities on COVID-19.

WHO Global Research Priority on COVID-19

As part of WHO's response to COVID19, World scientists on COVID-19 met at the World Health Organization's Geneva headquarters on 11–12 February 2020 to assess the current level of knowledge about the new virus, agree on critical research questions that need to be answered urgently, and to find ways to work together to accelerate and fund priority research to curtail this outbreak and prepare for those in the future, and developed the research and development (RandD Blueprint which has prioritized research areas (WHO 2020).

The WHO Global Research Priorities on COVID-19 (WHO 2020) are:

a) Virus: natural history, transmission, and diagnostics

– Natural history of disease, develop disease models, monitor phenotypic changes in the virus, understand the immune response and characteristics, deploy diagnostics.

b) *Animal and environmental research on the virus origin, and management measures at the human-animal interface*

– Evidence of continued spill-over to humans, understand the socioeconomic and behavioral risk factors for this spill-over, design and test sustainable risk reduction strategies.

c) Epidemiological studies

– Understand the transmission dynamics of the virus, severity of disease, including risk of fatality, understand susceptibility of populations, effective public health mitigation measures.

d) Clinical characterization and management

– Natural history of disease to inform clinical care, public health interventions, infection prevention control, transmission, and clinical trials.

– Infection Prevention and Control, including health care workers' protection.

– Prevent secondary transmission, effectiveness of PPE, minimize the role of the environment in transmission.

e) Candidate therapeutics RandD

– Develop animal models and standardize challenge studies, prophylaxis clinical studies, adequate supply of investigational/therapeutics showing efficacy (cost/affordability, equitable access, production capacity and technology transfer).

f) *Candidate vaccines RandD*

– Optimize clinical trial design, evaluate risk for enhanced disease after vaccination, evaluate vaccine immune response.

g) *Ethical considerations for research*

– Articulate and translate existing ethical principles and standards to salient issues in COVID-2019, minimize duplication of oversight, sustained education, access, and capacity building in ethics.

h) Social sciences in the outbreak response

– Multidisciplinary research and operational platforms, global networks of social sciences, local barriers and enablers for the uptake and adherence to public health measures (use of surgical masks, modification of health seeking behaviours for SRH, school closures), physical and psychological health of health care providers, risk communication, community engagement.

COVID-19 related health research in Nepal

The COVID-19 related research projects submitted to NHRC for ethical approval and their distribution as per the WHO Global Priorities is given in Table 1.

Table 1. COVID-19 related health research in Nepal (As of July 26, 2020)

SN	Areas	Total
1	Virus: natural history, transmission, and diagnostics	3
2	Animal and environmental research on the virus origin, and management measures at the human-animal interface	0
3	Epidemiological studies	10
4	Clinical characterization and management	20
5	Infection Prevention and Control, including health care workers' protection	2
6	Candidate therapeutics RandD	3
7	Candidate vaccines RandD	0
8	Ethical considerations for research	1
9	Social sciences in the outbreak response	92
	Total	131

Data source: (Source: http://nhrc.gov.np/category/covid-19/)

Conclusion

Despite the limited resources and the first lock down period of more than four months, COVID-19 related research activities were not disrupted and Nepal placed COVID-19 research on high priority. In order to make maximum utilization of limited resources and minimize COVID-19 risk to both researchers and research participants, NHRC developed guidelines for strengthening evidence generation on COVID-19. It is recommended to prioritize and conduct research on COVID-19 candidate vaccines, and animal and environmental research on the virus origin, and management in Nepal in future which is missing in the existing submitted proposals list.

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Chapter 5

Impact of COVID-19 in Nepal: A Gender Perspective

Sujata Shrestha[9]

Why gender matters in the time of pandemic?

Globally women are more vulnerable to any kind of economic shocks, disasters, natural calamities, and past pandemics (Peterman et al. 2020). We can presume that the global health problem, COVID-19 pandemic is not going to be gender neutral. Although the infection wise gender might not play a big role, it's secondary impacts are going to affect men and women differently. For example, it has been speculated that pandemics make existing gender inequalities for women worse than before. However, we need accurate and complete sex disaggregated data to understand whether and how women and men experience COVID-19 pandemic differently.

Women are at higher risk of COVID-19 pandemic both directly and indirectly. Directly, they are at increased risk of infection due to their disproportionate representation in health care and social services. Indirectly, they are at risk of loss of livelihood and employment, increased care burden, limited access to health care, insufficient financial resources, and increase in risk of domestic violence. Therefore, women are more likely to be affected physically, mentally, economically, and socially during the COVID-pandemic and post-COVID context. Here, I have outlined potential effects of COVID-19 on women in Nepal.

Economic hardship

Women are playing a critical role at home, in the community, and in the employment sector. According to the International Labor Organization (ILO) report, women represent less than 40% of total employment, however, 57% of them work on a part time basis (ILO 2016). In Nepal, more than 80% of working women work on a part time basis (ILO 2018), this include service sector, hospitality, health, education, care work, etc. When the economy is in turmoil, women are at front line of risk for losing part time jobs, shrinking work hours, in some cases pushing many women to leave the labor market permanently because of increased childcare and family care burdens, attitudinal bias, and a slower recovery. For example, in Liberia during the Ebola epidemic (2014-2016) women experienced worse job losses and remained out of work longer than men, since women worked disproportionately in the service and hospitality sector (Davies and Bennett 2016). According to a new analysis commissioned by UN Women and UNDP, by 2021 globally around 435 million women and girls will be living on less than $1.90 a day — including 47 million pushed into poverty as a result of COVID-19. These new forecasts signal a worrying reversal in gains towards eradicating poverty (UN-Women 2020).

Increased unpaid care burden

Women carry a distinct kind of burden at home, and it is going to be exacerbated during and after COVID-19. When lockdown measures are applied in the countries and households are under strain, women are expected to play the unending nurturing role from cooking and cleaning to fetching water, gathering food and firewood, and taking care of children and elderly because everyone is at home all the time.

Women carry out at least two and a half times more unpaid domestic work than men, which is usually excluded from the

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calculation of gross domestic product (GDP) (DeRock 2021). Women's unpaid domestic work is valued to be 10 to 39 percent of the GDP (Budlender 2008). Decline in the women's representation in the productive work affects their access to, and control over, resources (Bradshaw 2001). Moreover, as unpaid care burdens increase, the livelihood and economic opportunities for women decrease and existing gender inequalities in economic opportunities may worsen.

Violence against women and girls

Gender-based violence (GBV) increases during every type of emergency – whether economic crises, conflicts, or disease outbreaks (Peterman et al. 2020). Pre-existing toxic social norms and gender inequalities, economic and social stress caused by the COVID-19 pandemic have led to an increase in GBV.

We say, "Stay home and be safe" to prevent the transmission of the virus but home is not safe to all women and girls especially who are facing the GBV at their home. Globally, 243 million women and girls aged 15-49 have been subjected to sexual and/or physical violence perpetrated by an intimate partner in the previous 12 months (UN-Women 2020). This has been exacerbated after the widespread stay at home orders (lockdown measures) applied by the countries to prevent transmission of the virus. It forced women and girls to live with their abuser in the same territory, that worsens the problem.

In Bangladesh, over 11,000 women faced domestic violence during the lockdown and helpline calls increased four-fold during the lockdown (Sifat 2020). In Nepal, National Women Commission discloses that they received 885 calls related to domestic violence from April to June, 2020. This is over twice the number of calls received within the same period prior to the lockdown (Jaya 2020). Similarly, Women Rehabilitation Centre (WOREC) reported 465 cases of violence against women and girl (Figure 1) committed during two months of lockdown from 37 districts (24 March to May 22) (WOREC 2020).

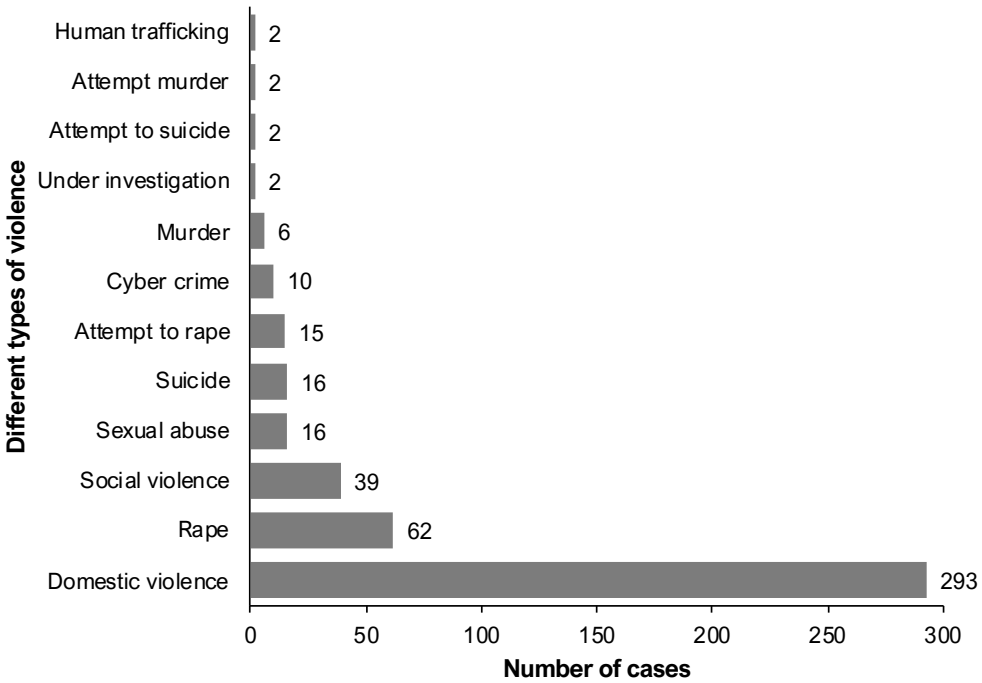

Figure 1. *Violence against women and girls during lockdown (WOREC 2020)*

Girl's education

Among all other sectors education is the hardest hit sector in COVID 19 pandemic. In the countries affected by COVID-19, it is likely that schools would close for an indefinite time to prevent the spread of outbreak, impeding access to education for children around the world, especially to those who do not have access to remote learning systems and infrastructure. Worldwide 90% of all students out of school due to school closer among them 800 million are girls (Giannini and Albrectsen 2020). Girls are more vulnerable than boys in terms of access and continuation of education. In Nepal, Voluntary Services Overseas (VSO) surveyed 240 girls, nearly 89% surveyed population are now involved in household labor, 22% involved in agricultural activities hindering their efforts to continue studying. While 70% have initiated home learning and are reporting significantly less time to study (VSO 2020) (Figure 2).

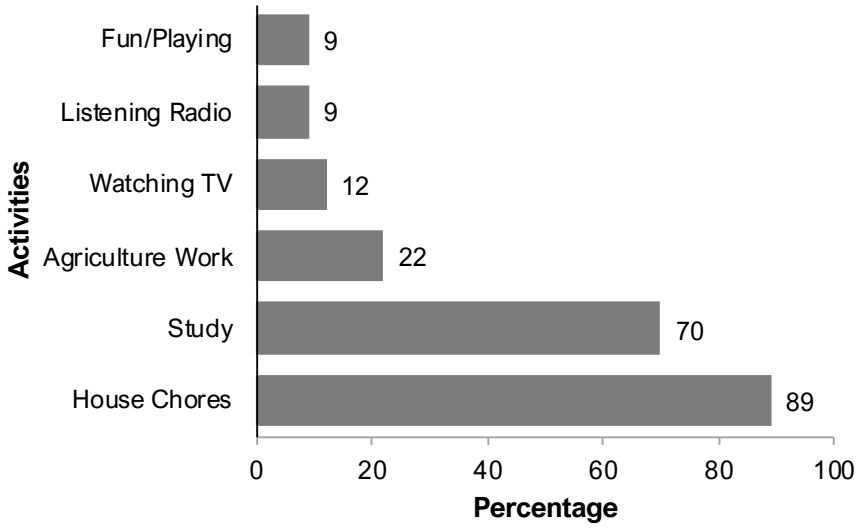

Figure 2. *Marginalized girls' activities during school closure (VSO 2020)*

Long term school closure increases risk of sexual exploitation, pregnancy and child forced marriage. For example, school closures during the Ebola outbreak are associated with an increase in teenage pregnancy and marriage (Giannini and Albrectsen 2020). Even after the pandemic, it has been speculated that girls might drop out of school at higher rates than boys because of disproportionate increase in unpaid housework, economic hardship to the family. It might increase the gender gap in education and dampen the current progress already made.

Even though the contagious virus does not differentiate between male and female, the contagious discriminating policy of nation, community and household is far more dangerous to the women in the time of COVID-19.

National Government responses to Covid 19 and related pandemic should include:

- Assess the differential impact of COVID-19 on women and men.
- Include women in Covid-19 response planning and decision making.
- Design and distribute the gender-fair subsidies and economic recovery plans.
- Provide services to address violence against women and girls.

- Support psychosocially to the victims.
- Build gender friendly and safe quarantine.
- Create a technology friendly environment to the girls.
- Prepare the plans to ensure the continuity of education to the girls.
- Focus on the lives and future of women and girls.

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Chapter 6

Gendered Impact of COVID-19 in Academic Sector

Dipika Das[10]

Introduction

As coronavirus disease (COVID 19) pandemic hits the world, daily lives of people grind to a halt due to health risks. Countries implemented a variety of protective measures in response to the threat, including arranging for citizens to operate from home. Professionals and academics were handled in the same way. The deliberate freedom from the workplace or remote working was believed to increase the time for independent research works, however, the extended time of this arrangement has brought unique experiences and outcomes (Staniscuaski et al. 2020). One of the experiences is young children remaining at home due to school closure that turned a home into an intersection of daily lives, work, and school. While the academic fathers faced an impact of the confinement, the mothers were heavily affected due to the unequal gender roles at home (Viglione 2020). As a result women academics seem to be submitting fewer papers during COVID (Kitchener 2020, Minello 2020). The existing gender differences in the academic visibility (Huang et al. 2020) needs a concern during the situation of COVID and beyond.

Are COVID impacts on the research sector gendered?

Megan Frederickson, a Canadian Ecologist, who was quarantined with her six years old during COVID, identified falling behind her male peers at work (Viglione 2020). The experience was overwhelming, and she decided to explore if there were any similarities of feeling among other researchers. She led a Twitter thread to initiate the discussion which caught the interest of many researchers, especially women sharing similar sentiments.

Further, her suspicions about the consequences were confirmed when Nature's preprint server data analysis as shown in Figure 1 verified the gendered outcome (Viglione, 2020). Female academics, taking up increased childcare responsibilities, were submitting less scientific publication (based on analysis of preprint submissions) compared to men. In results, the proportion of women among authors of nearly 40,000 articles published in US medical journals in 2019, the proportion of female authors on COVID-19 papers has dropped by 16% (Nature's preprint analysis). There are several researchers noted the gendered impact in academic (Kitchener 2020, Minello 2020, Bryce 2021).

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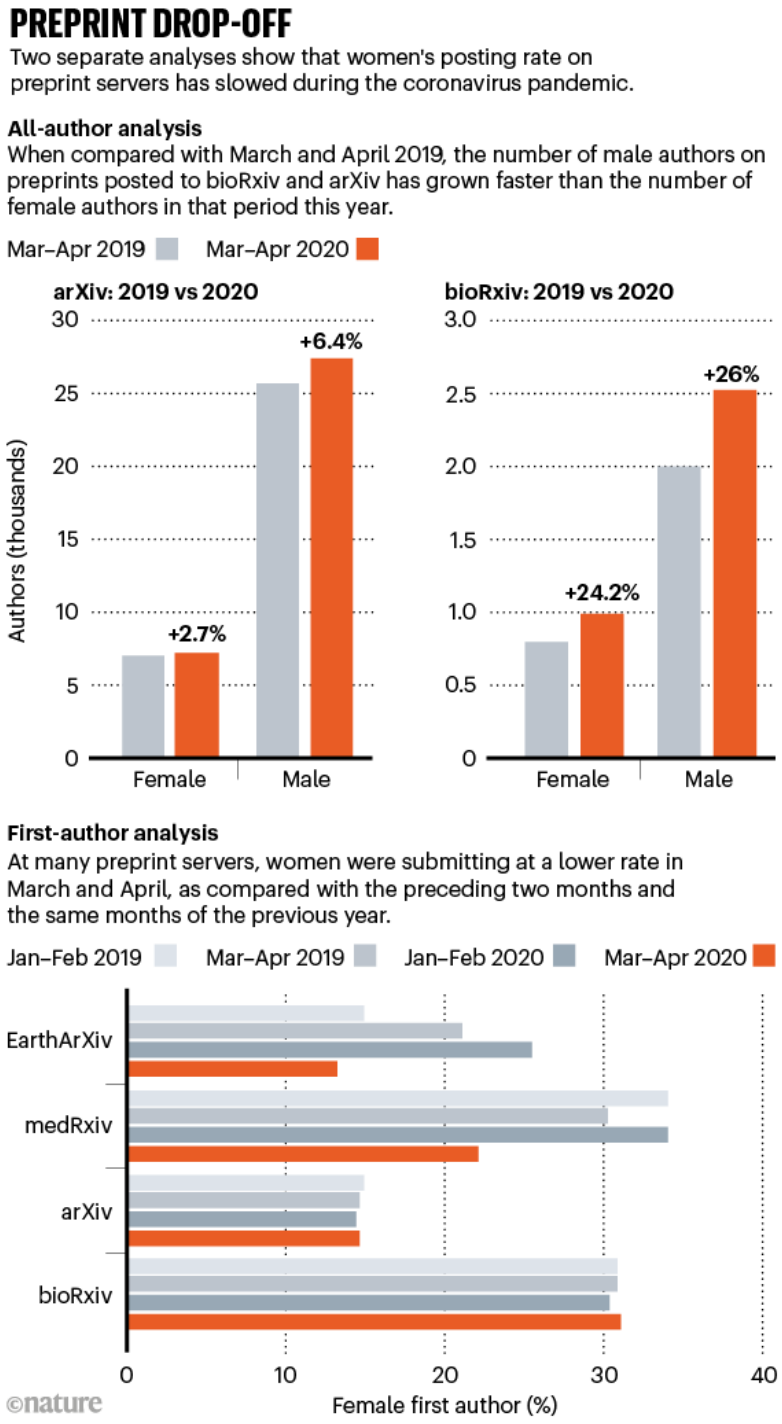

Figure 1. First author analysis of preprint servers (Source: M. Frederickson cited from Viglione, 2020)

Why is the impact gendered?

Broadly, domestic work that includes personal and household care confirms to be one of the critical reasons for the gendered outcome of COVID-19 in the research sector (Andersen et al. 2020). The prescribed gender roles might have some contextual dissimilarities, there are many similarities for women's role across the regions and societies. In most of the places, a defined gender role for a woman is to be responsible for food preparation, cleaning dishes, laundry and clothes care, purchasing goods and services, household maintenance, care of a child and elderly and animal or livestock

care. However, COVID has added the burden of home-schooling to mothers irrespective to their individual research work.

During the pandemic, female academics often do more care giving than men. Minello (2020) mentioned the unequal burden of care jobs also results in unproductive work from home situations and refers to it as 'maternal wall'. Molly King, a sociologist at Santa Clara University in California, reconfirms the shreds of evidence from everywhere showed consistent results that the division of childcare between men and women was unequal.

Unlikely, Paolo Brunori, a male economist at the University of Florence, a father to 18 months and five years old children emphasized care job impact to the outcome of a researcher. As his wife is a paediatrician, an essential care worker who must work extra hours during COVID, he is delivering the care job and works from home. He confesses, "Keeping your head on the research duties is almost impossible because I never have three to four consecutive hours of peace to be concentrated. I try to break down the things I have to do in many small tasks and do them when Silvia, my wife, is at home or when everyone is asleep." It shows care work itself is not gendered, but as it is distributed unequally among the gender, it brings a disproportionate outcome to productivity.

What happens if the COVID induced unequal outcome continues?

Olga Shurchkov, an economist at Wellesley College in Massachusetts, recognized the disparity in scholarly publication is itself a problem that, if left unaddressed, may have grave implications for academic diversity (Shurchkov 2020). Importantly, researchers also point the pandemic impact on female academic at different career stages that has compounding effects in years to come (Oleschuk 2020; Vincent-Lamarre et al. 2020a, 2020b). The consequences caused by COVID can be categorized into two forms.

1. **Short term effects**: Biases based on the quantity and quality of scientific publications and the ability to draw grants causes.
    - Workplace/ institution recruitment bias
    - Promotion bias
    - Women lag in the workplace
2. **Long term impacts:** The short-term effects result if remain unaddressed lead to the long-term consequences as;
    - Lack of diversity and multiculturalism, gender inequality at workplace
    - Questions the sustainability of women's career in academia
    - Overall decrease in holistic growth and productivity of an organization/ institution
    - Unequal societies and power imbalances, inharmonious/ unpleasant growth and questions sustainable growth.

Policy recommendations - So what? How to address the situation?

As the emerging uncertain situation of COVID and its implications tends to remain long-lasting, measures are necessary to mitigate the unequal outcomes in the academic sector. By instituting more flexible policies, we can make science fairer for everyone affected by the pandemic (Staniscuaski et al. 2020). Gender-based need for short term and long term can be addressed by some effective policies like;

- Supporting the work from home settings
- Infrastructure development and capacity development
- Ensuring inclusion and diversity by

extending deadlines for grant proposals reports

• Funding agencies should consider creating granting programs designed around the reality of academics with families, and renewal requests must be postponed

• Implementing gender-friendly rules – During COVID in Japan and Malaysia (only males allowed to shop grocery to manage well) which also helped to share the domestic work burden of women.

Gender Research during COVID- New Normal

The strength of research in the global south is miniscule, and during this ubiquitous impact of COVID-19, the research capacity is compromised. Hence, it is crucial to support and strengthen overall research in such countries. In developed nations, a culture of "new normal" suggesting co-existence with COVID is established and encouraged to reduce the impact. Their research engagements can be seen by use of technology- zoom, face to face media for research. The online meeting platforms, conferences, and forums are created to keep the research work going on. The learnings can be useful to support and continue research works.

Developing countries must address the current research needs before lagging far behind due to COVID-19. Here are some recommendations that can be helpful to carry research during these unprecedented times. For quantitative studies, survey design and self-administered questionnaires, telephone data collection can be useful. Likewise, for qualitative approach such as social science and gender research which deal with subtle issues often examine participants response along with their verbal tone and body language. Here are some useful tips for qualitative studies i) establishment of research pool, ii) identification and training to the contact person who can be approached by telephonic media, iii) face to face interviews or meetings via electronic media like Zoom, FaceTime, Viber, WhatsApp and other social media can be used to link respondents via the key persons.

Developing countries must consider strengthening research engagement during COVID-19 and adjust with the "new normal" through technology. It is unclear whether more adaptive or targeted "new normal" approaches are feasible or will result in more equal outcomes. It brings hope for academics and researchers facing difficulties. It is also recommended to seek support, bargain and find what works to boost productivity to avoid falling behind.

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Chapter 7

Health Impact of COVID-19 from Gender Perspectives

Mandira Lamichhane Dhimal[11]

Introduction

The corona virus disease (COVID-19) pandemic caused by severe acute respiratory syndrome corona virus 2 (SARS-CoV-2), initially detected in Wuhan, China has spread throughout the world creating the global pandemic (CDC 2020). The World Health Organization (WHO) declared the outbreak of coronaviruses a Public Health Emergency of International concern on January 30, 2020 and Public Health Pandemic on March 11, 2020. COVID-19 pandemic is an unprecedented health emergency around the globe which has caused significant health, economic and social consequences and millions of morbidity and mortality. The COVID-19 pandemic has followed a number of zoonotic diseases that have emerged in recent decades, such as Ebola, HIV AIDS, SARS, avian influenza and swine flu and all of these are originated in animals – and there is increasing evidence that humanity's overexploitation of nature is one of the factors behind the spread of new diseases in "Anthropocene" era (Calabrese et al. 2020).

The COVID-19 has affected human health through direct morbidity and mortality, and indirectly affecting mobility of people, disrupting health care delivery and affecting food and nutrition of people. Like other epidemics, COVID-19 also affects gender disproportionately. Women and men are affected by COVID-19, but biology and gender norms are shaping the disease burden (Lancet 2020). Women carry a different kind of burden from COVID-19- household chores, care of family members, increased domestic violence, and disturbance of their sexual and reproductive health (SRH) services as well as prenatal and postnatal care. Addressing the health needs of men and women equally will help societies recover and resist future human tragedies as COVID-19. Recognizing the gendered impacts of the outbreak is a fundamental step for understanding the primary and secondary effects of a health emergency and for creating effective and equitable policies and interventions (Wenham et al. 2020).

Gender Differentiated Health Impacts of COVID-19

The COVID-19 pandemic has caused a number of psychological impacts which need to be considered seriously (Cullen et al. 2020). During the lockdown, people suffered from mental illness such as anxiety, depression, fear of getting illness, among different problems. The preliminary data compiled by the Nepal Police shows that suicide among adolescent girls have risen by almost 40 per cent during the first four months of lockdown (Mar-Jun 2020) compared to the same duration the previous year, with some increase among boys (UNICEF 2020). The most common risk factors reported associated with mental distress during the COVID-19 pandemic include female gender, younger age group (≤40 years), presence of chronic/psychiatric illnesses, unemployment, student status, and frequent exposure to social media/news concerning COVID-19 (Xiong et al. 2020). For example, the mental health impact of COVID-19 is reported higher among health professionals particularly among nurses in Nepal (Khanal et al. 2020). The gender-related factors may also increase the impact of the COVID-19 pandemic on women globally as the majority of caregivers are women in both the formal and informal sectors. For

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example, the closure of academic institution to control COVID-19 transmission in China, Hong Kong, Italy, South Korea, and beyond might have a differential effect on women, who usually provide most of the informal care within families, with the consequence of limiting their work and economic opportunities (Wenham et al. 2020). The contraceptive use and antenatal care (ANC) visit have adversely affected low and middle-income countries like Nepal which may adversely affect reproductive and sexual health. As a result of this, drop out of ANC visits, discontinuity of contraceptives and unwanted pregnancy are common which may cause baby boom (Ullah et al. 2020).

During the pandemic, some individuals may follow to harmful methods of coping with the crisis, such as alcohol consumption and substance abuse, thus adding to existing mental health problems which may also lead to an increase in gender-based intimate partner violence, reduction in preventive help seeking behavior, and increase in suicide rates with devastating results, especially in low- and middle-income countries (Thapa et al. 2020). Women, children, and pregnant women are at higher risk and recent evidence examining adults infected with COVID-19 has indicated a significant impact of malnutrition on health outcomes (Singh et al. 2020). Furthermore, individuals who have multiple co-morbidities, are older adults, or who are malnourished are at increased risk of being admitted to the intensive care unit and of mortality from COVID-19 infections (Singh et al. 2020).

Conclusion and Way forward

Like other pandemics, COVID-19 has also gender differentiated impacts. Both women and men are affected by COVID-19, but biology and gender norms are shaping the disease burden in the communities. Following are suggestions for addressing gender differentiated health impacts

- Incorporate gender analysis into the preparedness and institutional response to improve the effectiveness of health interventions and promote gender and health equity goals including SDGs
- Involve both male and female in decision making such as quarantine and isolation centers operation and management
- Address essential health services such as ANC visits, safe delivery, psychosocial counselling, and social support e.g., eliminating professional stigma
- Support economically to poor and deprived people during lock down period

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