



Assessing the Impacts of the COVID-19 Pandemics on Sustainable Development Goals in Nepal

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Globally, billions of people and their livelihood are threatened by the onset of COVID-19. In Nepal, resource-poor people who lost their job were the hardest hit among millions of impacted populations. Further, the associated effects of pandemics are food supply chain interruption and people's inferior physical and mental wellbeing. The COVID-19 pandemic and associated impacts have questioned Nepal's ability to achieve the 17 United Nations sustainable development goals (SDGs) in the post-pandemic era. Yet no scientific studies available to see COVID-19 and SDGs relationships in Nepal, government reports, and macroeconomic updates indicated that COVID-19 is likely to deter significantly in achieving SDGs targets. This systematic review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines to quantify the impacts of the COVID-19 pandemic in Nepal's macro-economy from March 2020 to December 2021. Our study indicated that the COVID-19 exerted inevitable challenges in achieving SDGs targets in terms of food security and household poverty. Therefore, this paper recommended creating more employment opportunities in the domestic economy and establishing a resilient food system.

Keywords: COVID-19, SDGs (sustainable development goals), food security, poverty, agriculture, Nepal

INTRODUCTION

The COVID-19 pandemic has highlighted the vulnerability of the global food system leading to an increase in food insecurity and poverty. Like many developing countries, Nepal is seriously threatened by its adverse impacts on people's physical and mental wellbeing and national food security. In Nepal, a total of 827,763 infections and 11,588 deaths associated with COVID-19 were reported until 29 December 2021 (Worldometer, 2021). It has impacted almost all economic sectors, including hospitality, health, trade, and production, among the hardest hit sectors (Joshi et al., 2021). In addition, Nepal's recent administrative restructuring to federalism has posed chaos among three tiers of government, namely federal, provincial and local government. Power and authority among these governments are still underway and result from poor coordination on implementing government policies.

To manage and control the spread of COVID-19, Nepal initially adopted social distancing, mandatory face-masks, and restrictive travel rules (19 March 2020). However, an increasing number of cases pushed the government to declare a national health emergency and put forward

nationwide lockdown, local curfew and closure of non-essential services and businesses (23 April 2020, enhanced 21 June 2020). The lockdowns and restrictive mobility impacted people's physical, mental, social, and spiritual health and posed a threat to vulnerable populations (Adhikari et al., 2021). In addition, the government's poor health system and economic support system put many poor and daily wage laborer's lives on the edge of two swords, go outside and killed by disease or stay home and be killed by hunger. However, the majority of households coped with this economic and health crisis in their way.

Nepal is a predominantly agriculture-based economy that is a lifeline to more than two-thirds of the population and the source of one-third of the national gross domestic product. The majority of households follow a subsistence farming system that is self-sustaining in various crises. For example, a diversified farming system and sources of income in the hills and mountains buffered a severe economic crisis after a great earthquake and trade embargo with India in 2015 (Epstein et al., 2017). However, increasing labor migration in the last couple of decades has resulted in labor scarcity in this primary economic sector in Nepal, especially in the peak seasons. As a result, national production is declined every year and became more import reliant. Now, the COVID-19 pandemic has raised the question of how the COVID-19 would impact the food security and poverty situation of Nepali households and achieve the United Nations Sustainable Development Goals (SDGs) by 2030.

The paper investigated the immediate impact of COVID-19 in the farming system and livelihood and the long-term impacts on achieving the country's SDGs, with particular focus on SDGs 1 (No Poverty) and SDGs2 (Zero Hunger). Further, the review investigated government and community measures to cope with COVID-19 on farming systems and food security. Studies recognized that the COVID-19 pandemic has more explicit impacts on poverty (SDG1), food security (SDG 2), health and well-being (SDG3), the economy (SDG8) and multilateralism (SDG 17), as well as Gender Equality (SDG 5), and the governance (SDG 16) (Baniya et al., 2021; Fenner and Cernev, 2021). Nepal has proposed to graduate from an underdeveloped country to a middle-income developing country by 2026, which has been approved by the United Nations General Assembly. Hunger (SDG 1), food security (SDG 2), and income level have implications for the LDC's graduation (Rai, 2017).

The paper did a systematic review of literature collected through Google Scholar, PubMed, and Scopus. In addition, further information was collected from government and non-government agencies and their publications such as the Ministry of Agriculture and Livestock Development (MoALD), National Planning Commission (NPC), International Labor Organization (ILO) and news agencies and open databases such as Worldometer, World Bank Data Portals, Spotlight and others. This study adopted the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines that ended up analyzing 25 related and reliable literature (Figure 1).

FOOD SECURITY AND POVERTY SCENARIO IN NEPAL

Today, Nepal is a net food importer country that used to be a food exporter until the early 1970s. Various factors such as small land holding, rugged terrains, remoteness of farms, poor agricultural inputs (seed, fertilizer and irrigation) access, labor scarcity and farmers' low technical capacity have significantly hindered Nepal's food production capacity (Adhikari, 2020; Adhikari et al., 2021). Further, farmers receive limited support from the government in terms of input such as seed, fertilizer and loans, and services such as technology, marketing and training. Only a small portion of farmers in the peri-urban areas and the Terai plains follow a commercial farming system that could not satisfy the increasing population and trade competitiveness with the global producers. The agri-business sector is far less competitive than neighbors India and China because their farmers get higher subsidies in fertilizers, irrigation, machinery and technical service delivery.

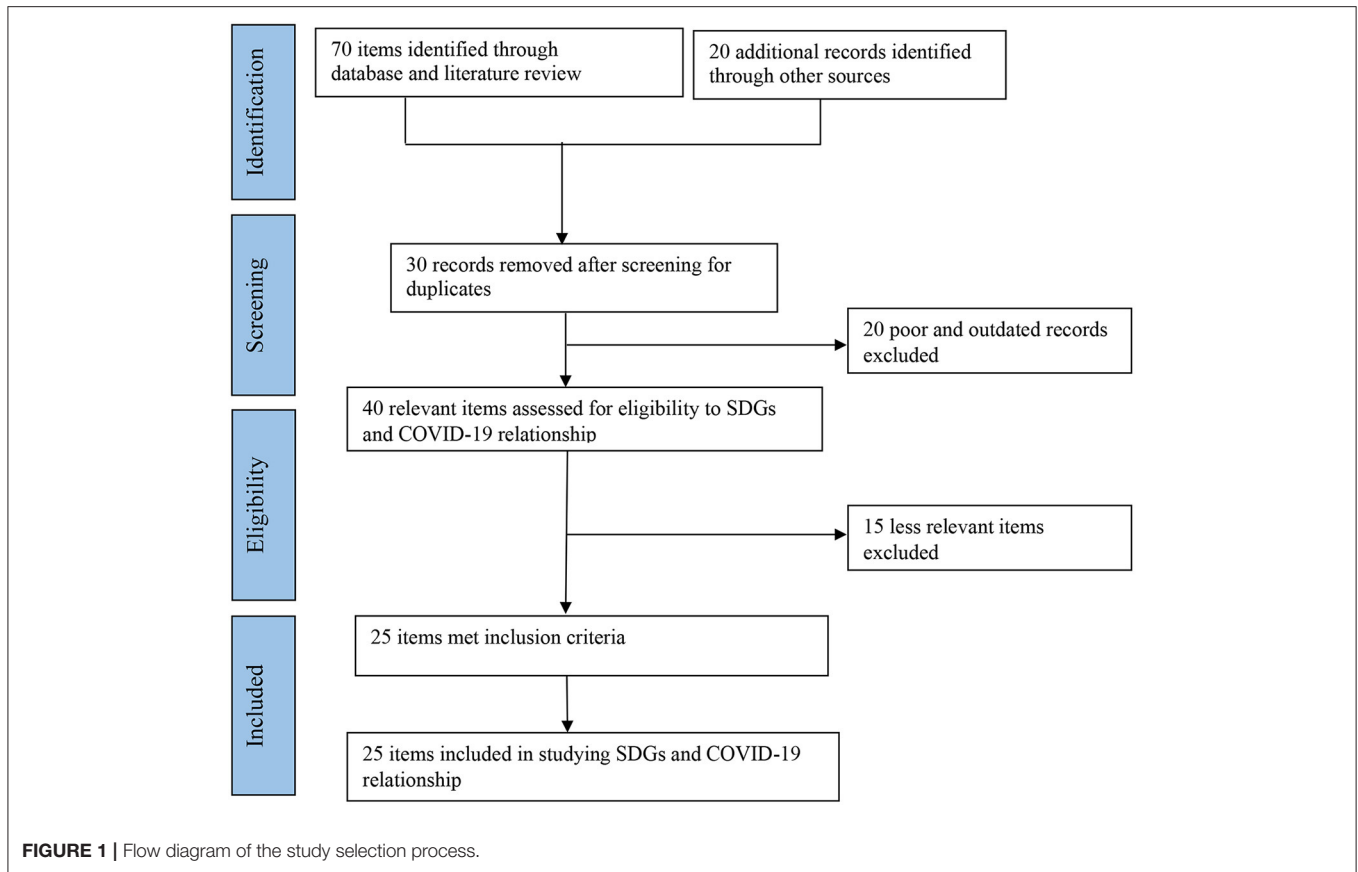
Today, at least 10% of the country's population (2.8 million), including marginalized indigenous groups, is working in foreign countries that constitute half of the youths between 18 and 35 years (Adhikari, 2020). In general, economic and regional status are the determining factors in choosing their destinations; poor and marginalized people in the Western hills go to India, whereas the lower and upper-middle-class from the rest go to the Gulf countries. More than half of the households (56%) receive remittances from their foreign employed family members (Adhikari, 2020; GoN-NPC, 2020a). The majority of them are working in the Gulf countries. Their remittances have a significant contribution to national foreign exchange and poverty reduction. The share of migrant remittances is equivalent to 28.4% of the national gross domestic product (World Bank, 2020a). It is higher than any other highest economic sector in Nepal and has been a key contributor to reduce household poverty incidence, from 42% in 1996 to 18.6% in 2019 (GoN-NPC, 2020a; World Bank, 2020b) along with various other factors such as rise in wage rate, urbanization and rising other income sources (Pant, 2008).

IMPLICATIONS FOR ACHIEVING SDGS TARGETS

After adopting SDGs, Nepal developed SDGs status and roadmap 2016–2030, SDGs needs assessment, costing, and financing strategy. Nepal developed 494 indicators for 17 goals and 169 targets (GoN-NPC, 2020a) of United Nations Sustainable Development Goals. However, the COVID-19 pandemics have implications mostly on SDG1 (No Poverty) and SDG2 (Zero Hunger) (Pradhan et al., 2021), and the paper focused on only these couple of SDGs.

Impact of COVID-19 on SDGs 1 (No Poverty)

The COVID-19 pandemic has negatively impacted the global economy and squeezed new employment opportunities. As a



result, ~1.6 million people have lost their job and sources of income (Joshi et al., 2021). Already dependent on labor migration for employment and household income experienced a significant implication to COVID-19. Further, a significant implication of the COVID-19 was observed in many parts of the country where people from a disadvantaged and low-income families experienced negative impacts on food security, health, and wellbeing (Singh et al., 2020). Jobs (domestic and overseas) and income are crucial factors determining household poverty and food security (Deaton and Deaton, 2020). COVID-19 questioned livelihood to already food insecure 4.6 million populations (Department of Health Services, 2016). Further, it shattered achieving targets Nepal set for SDG1; (1) Reduce extreme poverty (below 5%), (2) Reduce the poverty gap (<2.8%), (3) Raise per capita income (from US\$766 to US\$2,500), (4) Reduce national poverty (below 5%), and; (5) Reduce Multidimensional Poverty Index (MPI) (below 7%). The revenue collection of Nepal was reduced by 7.45% during the first wave of pandemics, and the country experienced a trade imbalance (Joshi et al., 2021). A decline in revenue collection and higher recurrent spending are likely to increase the fiscal deficit (Rasul et al., 2021). Amidst the COVID-19 pandemic, Nepal's Gross Domestic Product (GDP) growth rate has been reduced by 0.2% in 2019/20, which was 7% in the previous year (Magar et al., 2021). Further, the closure of the service sector excavated 31.5% of the total workers to lose their jobs (UNDP, 2020). Low or negative GDP

growth, declining export earnings, and increased fiscal deficit have serious implications for household income and poverty (Rasul et al., 2021). It has been reported that of Nepal reported that the COVID-19 has pushed ~31.2% of the total population to poverty (Rasul et al., 2021). Nepal drafted a food governance-related policy, the Right to Food and Food Sovereignty Act in 2018 which is related to SDGs1 and SDGs2. However, this Act did not foresee COVID-19 or similar crises scenario in the future. The act has ensured the right to food for every citizen. The pandemic has disrupted the food production and supply system resulting in lower availability of food (Joshi et al., 2021). As a result, there might be implications for implementing such legislation.

Impact of COVID-19 on SDGs 2 (Zero Hunger)

The COVID-19 pandemic and associated impacts jeopardize all four food security dimensions: food availability, access, utilization, and stability. Despite the government's announcement of allowing people to continue their farming activities adopting health protocol, the continued lockdown hampered the production and distribution of foods, affecting their availability (Adhikari, 2020). At the same time, the COVID-19 pandemic exposed how fragile the country's food supply system is, which also realized the policymaker rethink

the food governance of the country. The SDG 2, specifically “Target 2.1—By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round” (UN, 2015), is likely to deteriorate Nepali agricultural production system and supply chain due to policy changes after the COVID-19.

The onset of the COVID-19 pandemic has hampered access to food. Low-income families, daily wage workers, and job losers are more vulnerable to food insecurity due to their reduced financial capacity and insufficient food stocks (Adhikari et al., 2021). Early estimates of ILO indicated that at least 1.6–2 million people would be lost their job after the onset of the COVID-19 pandemic (ILO Nepal, 2020). However, 6.4 million people lost their job after the spread of the COVID-19 pandemic (GoN-NPC, 2020b). The demand for vegetables, fruits, milk, and meat products was reduced in major cities such as Kathmandu, Pokhara and Chitwan (Joshi et al., 2021). Similar was the situation as reported by Workie et al. (2020), who studied the impacts of COVID-19 pandemics in developing economies. The situation has exposed the need for a safety net to protect the acutely vulnerable groups in the future. About 90% of migrant workers were involved in the informal sector in cities and lost their job (Spotlight, 2020). As a result, their source of income is reduced, leading to remittance inflow declining by 14% in 2019/20 compared to the 2018/19 fiscal year (World Bank, 2020c). Further, a substantial increase in food commodity prices across the country constrained the accessibility of food for low socioeconomic and disadvantaged households (Subedi, 2020). The border closure, restrictive transportation, and inadequate food stock contributed to the reduced access to food in the Terai region of the country.

A significant impact of the COVID-19 pandemic was observed in food utilization due to various issues such as food sanitation, food contamination, and decaying of food (Adhikari et al., 2021). Lack of standard food safety procedures for food handling made foods contaminated because of frequent touch by people. Due to reduced availability and access to food, people bought the product that came to the market, which came as violating food safety standards (Adhikari et al., 2021). The COVID-19 and poor health infrastructure exacerbated the chronic problem of malnutrition among children and women. Also, the pandemic delayed children’s immunization and safe delivery in hospitals, resulting in health issues in these populations (Singh et al., 2020), which impacted food utilization.

The COVID-19 pandemic has indicated some policy implications in the food stability dimension of food security. The pandemic has highlighted the importance of making provisions for unforeseen vulnerabilities, particularly the necessity to keep a larger supply of food on stock to the policymakers (Subedi et al., 2021). The provisions of buffer stock in the

country need to be increased in the future for the stability of food. Further, the provision of a regular food-aid program to food insecure regions such as Far West Province, Karnali Province, and Province-2 of the country is the utmost need in the future.

CONCLUSIONS AND POLICIES RECOMMENDATIONS

Food insecurity is a severe public health issue in Nepal, particularly among low-income and disadvantaged households. During the pandemic, the families that relied on daily wages and remittances for their livelihood were largely faced food insecurity. The COVID-19 pandemic has pushed one-third of the population to poverty, and that could have long-term effects on national food security and the poverty situation. Though the government has responded to food security and self-employment endeavors, they are inadequate and could not reach affected groups. One of the reasons could be poor coordination and lack of food governance frameworks among the three tiers of the governments. Therefore, we suggest establishing an efficient food governance mechanism in the country, mainly in two aspects, creating local employment opportunities by providing vocational skills training to the people who lost their job, establishing a national employment promotion authority, and establishing an employment information and communication center. Further, its utmost needs to build capacities for resilient food systems in times of crisis. In addition, we advocate identifying acutely vulnerable populations and implementing long-term integrated food security policies to prevent long-term hunger and malnutrition among Nepal’s most vulnerable households.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author/s.

AUTHOR CONTRIBUTIONS

TJ, SA, and BP: conceptualization. RP and TJ: methodology. TJ, SA, KK, and BB: writing—original draft preparation. TJ, BP, SA, and RP: validation. All authors writing—critical analysis, revisions, review and editing. All authors contributed to the article and approved the submitted version.

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