



Socio-economic Impacts of COVID-19 on Employment, Income Loss, Food Security, and Social Protection in Pakistan: Evidence from National Survey Data

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ARTICLE INFO	ABSTRACT
Submission: August 30, 2026 Revised: September 11, 2026 Accepted: September 27, 2026 Available Online: October 07, 2026 Keywords: COVID-19; Socio-economic impacts; Unemployment; Income loss; Food insecurity; Social protection; Public policy; Well-being; Pakistan. Corresponding author: Izza Mustafa Email: izzamustafa20@gmail.com	This COVID-19 pandemic severely disrupted livelihoods, labour markets, and food security worldwide, with particularly adverse consequences for developing countries. This study examines the socio-economic impacts of COVID-19 on people's well-being in Pakistan by analysing nationally representative secondary data from the Pakistan Bureau of Statistics' <i>Special Survey for Evaluating the Socio-economic Impact of COVID-19 on People's Well-being</i> (2020). Using a two-stage stratified random sample of 31,022 households, the study employs descriptive statistics and multiple regression analysis to investigate the effects of job loss due to migration, household coping strategies, and social protection programs on unemployment, income loss, and food insecurity. The findings reveal that job loss and coping strategies significantly increased unemployment, income loss, and food insecurity during the pandemic. Social protection programs, primarily cash transfer schemes, showed limited effectiveness in mitigating these socio-economic hardships, reflecting structural weaknesses in coverage, targeting, and support for informal-sector workers. The study concludes that short-term cash assistance alone is insufficient to address large-scale socio-economic crises and emphasises the need for comprehensive labour-market interventions, targeted welfare reforms, and inclusive social protection systems. These findings provide important policy insights for strengthening crisis governance and socio-economic resilience in Pakistan and similar developing economies.

Introduction

In an increasingly globalised world, where markets, supply chains, and economies are deeply interconnected, shocks originating in one region can rapidly generate widespread socio-economic consequences across nations. The outbreak of COVID-19, officially declared a global pandemic by the World Health Organisation on 11 March 2020, emerged as one of the most severe public health and economic crises of the modern era. By mid-2021, the pandemic had caused over 217 million confirmed cases and more than 3.7 million deaths worldwide (Johns Hopkins University, 2021). Beyond its devastating health effects, COVID-19 severely disrupted global economic systems, labour markets, food supply chains, and social structures.

Government responses to control the spread of the virus, particularly lockdowns, travel restrictions, and business closures, were essential public health measures but also produced profound socio-economic repercussions. While these containment strategies reduced transmission rates, they simultaneously disrupted economic activity, increased unemployment, and intensified existing

social and economic inequalities (Chiwona-Karltun et al., 2021; Rojas et al., 2020). The Asian Development Bank (2020) projected that between 158 and 242 million people globally could lose their jobs due to the pandemic, while approximately 71 million individuals in low-income countries could be pushed into extreme poverty. These disruptions disproportionately affected vulnerable populations, especially informal-sector workers, low-income households, and those lacking social protection.

The pandemic also accelerated structural transformations in work, business, and governance. Many organisations rapidly shifted to digital platforms to sustain operations, resulting in increased digitalisation and changing employment patterns (Manyati & Mutsau, 2021). However, such transitions were unevenly distributed, often excluding underprivileged populations with limited access to technology and infrastructure. Simultaneously, disruptions in food production, transportation, and supply chains exacerbated food insecurity, particularly in developing countries, where vulnerable populations already faced significant nutritional challenges (Pereira & Oliveira, 2020; Laborde et al., 2020).

For Pakistan, the socio-economic consequences of COVID-19 were particularly severe due to pre-existing structural vulnerabilities, including widespread poverty, labour informality, weak social protection systems, and food insecurity. Before the pandemic, nearly one-fourth of Pakistan's population was already food insecure, and the country had limited employment-related social security coverage, with only 3.9% of workers formally protected (ESCAP, 2020). The Pakistan Institute of Development Economics (PIDE, 2020) estimated that COVID-19 could increase poverty by 55%, while approximately 11.71 million Pakistanis were expected to lose their jobs due to lockdown measures. Business closures, reduced remittances, labour migration, and inflation further diminished household incomes and purchasing power, increasing vulnerability to food insecurity and economic distress (Malek et al., 2021).

In crisis contexts such as COVID-19, governance capacity and government intervention become central to protecting public well-being. Effective policy responses require not only emergency health measures but also robust socio-economic support systems that can reduce household vulnerability and promote resilience (Zhang & Shaw, 2020). Governments worldwide implemented various forms of social protection, including cash transfers, food assistance, and employment support programs, to mitigate pandemic-induced hardships. In Pakistan, initiatives such as the Ehsaas Emergency Cash Transfer Program sought to provide immediate financial relief to vulnerable populations. However, the effectiveness of such interventions in addressing unemployment, income loss, and food insecurity remains underexplored.

Despite growing global literature on COVID-19's socio-economic effects, limited empirical research has systematically examined the interconnected roles of employment disruption, coping strategies, and social protection interventions in shaping people's well-being in Pakistan. Existing studies often focus on isolated dimensions such as unemployment or food security, with less attention to the broader governance implications of pandemic response. Addressing this gap, the present study investigates how job loss due to migration, household coping strategies, and social protection programs influenced unemployment, income loss, and food insecurity in Pakistan during the COVID-19 pandemic.

By utilising nationally representative data from the Pakistan Bureau of Statistics' *Special Survey for Evaluating the Socio-economic Impact of COVID-19 on People's Well-being* (2020), this study provides comprehensive empirical evidence on the pandemic's socio-economic dimensions. In doing so, it contributes to broader debates on crisis governance, the effectiveness of social protection, and policy resilience in developing countries. The findings aim to inform future policy design by identifying structural weaknesses in existing welfare responses and highlighting the importance of inclusive, evidence-based interventions to strengthen socio-economic resilience during large-scale crises.

Theoretical and Empirical Literature Review

Theoretical Review

The COVID-19 pandemic has generated unprecedented disruptions across public health systems, labour markets, food systems, and social structures, prompting scholars to examine its impacts through multiple theoretical lenses. Existing theoretical perspectives provide important insights into behavioural adaptation, socio-economic vulnerability, governance responses, and public policy interventions during crises.

At the behavioural level, mindfulness theory has been applied to explain how socio-cultural practices such as personal hygiene, physical distancing, and healthy lifestyles became essential preventive mechanisms during the pandemic (Kumar, 2020). This perspective emphasises collective responsibility and altruistic behaviour, in which individuals take protective actions not only for their personal safety but also to safeguard broader society. While valuable for understanding behavioural compliance, this framework offers limited explanatory power regarding the broader socio-economic consequences of COVID-19.

Structuration theory further highlights how the pandemic transformed social and organisational structures, particularly through abrupt shifts toward remote working and digitalisation (Matli, 2020; Van Zoonen et al., 2021). The sudden transition to digital modes of work altered communication patterns, labour productivity, and institutional functioning, often exacerbating inequalities among populations lacking access to technological infrastructure. Although digitalisation created new opportunities for some sectors, it also deepened socio-economic divides among vulnerable communities.

From a governance and institutional perspective, social support theory underscores the critical role of government and societal institutions in mitigating crises by reducing economic distress and promoting well-being (He et al., 2020). COVID-19 intensified uncertainty, unemployment, and social vulnerability, particularly among workers in precarious employment sectors such as tourism, construction, and informal labour markets. Governments' abilities to design and implement responsive social assistance measures, therefore, became central to protecting livelihoods.

More broadly, disaster and crisis governance theories suggest that pandemics require integrated policy responses that involve administrative coordination, economic interventions, and social protection (Ocholla, 2021). Decision theory, in particular, emphasises rational policy formulation under uncertainty, where governments must select optimal strategies to protect both public health and socio-economic stability (Berger, 2021). During COVID-19, this included balancing lockdown measures with economic sustainability and welfare support.

Among economic frameworks, Keynesian theory is particularly relevant for understanding pandemic-induced socio-economic shocks. Keynesian economics posits that unemployment and economic decline stem largely from insufficient aggregate demand, requiring proactive government spending to stimulate employment, stabilise incomes, and support economic recovery (Skidelsky, 2020). In the context of COVID-19, widespread business closures, reduced labour demand, and declining incomes support the Keynesian argument that government intervention through fiscal stimulus, social protection, and labour market policies is essential to mitigate unemployment and economic contraction.

This study primarily draws on Keynesian economic theory and decision theory to explain the socio-economic impacts of COVID-19 in Pakistan. Keynesian theory provides a strong basis for examining how employment disruptions, income loss, and weakened purchasing power affect well-being. In contrast, decision theory helps contextualise the role of government interventions, including social protection programs, in managing crisis outcomes. Together, these frameworks offer a comprehensive understanding of how labour market disruptions, household coping strategies, and state welfare interventions shape socio-economic resilience during large-scale crises.

Empirical Literature Review

Empirical evidence demonstrates that COVID-19 significantly worsened socio-economic vulnerabilities worldwide, particularly through rising unemployment, declining incomes, and increasing food insecurity.

Food insecurity emerged as one of the most severe consequences of the pandemic, particularly in low- and middle-income countries. Lugo-Morin (2020) conceptualised food security as encompassing food availability, access, utilisation, and stability, all of which were disrupted by pandemic-related economic slowdowns. Global studies revealed that lockdowns, supply chain disruptions, and food price inflation significantly worsened food insecurity (Mayasari et al., 2020; Singh et al., 2020). Kent et al. (2020) found that vulnerable populations, including rural households and people with disabilities, faced disproportionately higher food insecurity risks during the pandemic.

Labour market disruptions were equally severe. Wilson et al. (2020) found that job insecurity and financial concerns significantly increased anxiety and reduced well-being. Mueller et al. (2021) similarly reported substantial employment losses in rural economies, particularly among informal and temporary workers. Studies consistently demonstrate that vulnerable labour sectors, including construction, retail, tourism, and micro-enterprises, experienced the greatest economic shocks.

Comparative analyses also show that developing countries suffered disproportionately due to weaker social protection systems, greater labour informality, and higher dependence on disrupted global trade systems (Erokhin & Gao, 2020). Harjoto and Rossi (2021) found that emerging markets experienced greater economic instability than developed economies, particularly in labour-intensive sectors.

In Pakistan, the socio-economic consequences of COVID-19 were especially pronounced. Ali et al. (2021) found that the pandemic increased household food insecurity, reduced incomes, and heightened financial uncertainty for the majority of households. Malik

et al. (2020) demonstrated that local microenterprises experienced dramatic declines in sales and income, with severe consequences for household welfare. Ilyas and Kumar (2020) similarly found widespread income losses, increased household expenditures, and socio-economic stress among vulnerable populations.

Existing empirical studies therefore confirm that COVID-19 created interconnected socio-economic crises involving employment disruption, income decline, and food insecurity, particularly in vulnerable developing contexts such as Pakistan. However, limited research has systematically examined how job loss due to migration, household coping strategies, and social protection interventions collectively influence these outcomes. This study addresses that gap by integrating these dimensions into a unified analytical framework.

Theoretical Underpinning and Hypothesis Development

Drawing on Keynesian economic theory, decision theory, and existing empirical literature, this study proposes that COVID-19-induced labour market disruptions, coping mechanisms, and social protection interventions significantly influence people's socio-economic well-being.

Job loss due to migration represents a major labour market disruption resulting from pandemic-related economic shutdowns. Migration-related employment loss reduces household incomes, weakens purchasing power, and heightens food insecurity (Khanna, 2020; Gupta, 2021). Accordingly:

H₁: Job loss due to migration has a significant positive impact on people's unemployment status during COVID-19.

H₂: Job loss due to migration is significantly associated with income loss among people during COVID-19.

H₃: Job loss due to migration has a significant positive impact on food insecurity status among people during COVID-19.

Households also adopted various coping strategies, including borrowing, reducing expenditures, and selling assets, to manage pandemic-related shocks. These strategies often reflect deeper economic distress and vulnerability (Mahendra Dev & Sengupta, 2020). Therefore:

H₄: Coping strategies adopted during COVID-19 are significantly positively associated with unemployment.

H₅: Coping strategies adopted during COVID-19 have a significant positive impact on income loss.

H₆: Coping strategies adopted during COVID-19 are significantly associated with food insecurity.

Finally, social protection programs aim to mitigate economic hardship through government interventions, such as cash transfers and welfare assistance. Based on Keynesian principles, effective social protection should reduce socio-economic vulnerabilities:

H₇: Social protection programs have a significant negative impact on people's unemployment status during COVID-19.

H₈: Social protection programs have a significant negative impact on income loss during COVID-19.

H₉: Social protection programs have a significant negative impact on food insecurity during COVID-19.

The conceptual framework of this study positions job loss due to migration, coping strategies, and social protection programs as key independent variables influencing three major dimensions of socio-economic well-being:

- Unemployment
- Income Loss
- Food Insecurity

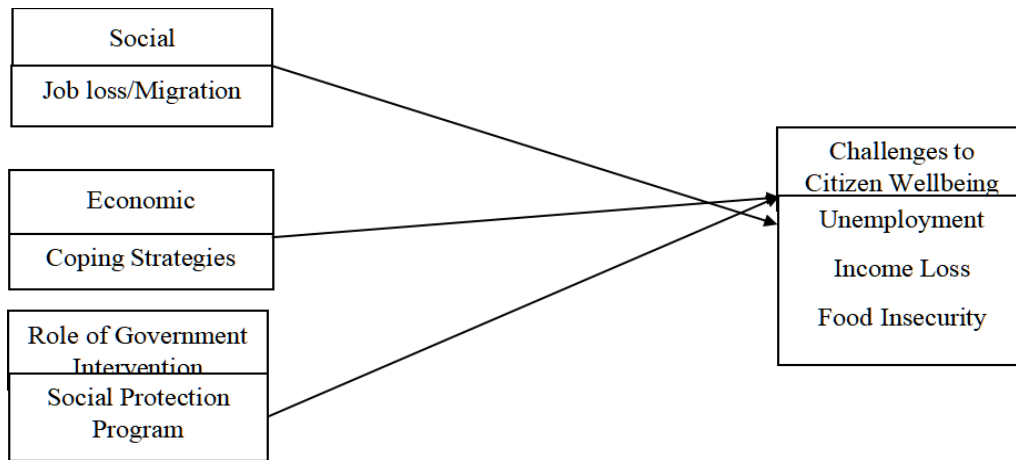


Figure 1: Conceptual Framework of the Study

This framework enables a comprehensive empirical examination of how pandemic-related labour disruptions, household adaptation mechanisms, and government interventions collectively shaped people's well-being during COVID-19 in Pakistan.

Data and Method

This study adopts a quantitative research design to examine the socio-economic impacts of COVID-19 on people's well-being in Pakistan. Secondary data are utilised from the Pakistan Bureau of Statistics' (PBS) nationally representative *Special Survey for Evaluating the Socio-economic Impact of COVID-19 on Well-being of People* (2020), which was specifically designed to provide evidence-based insights into the pandemic's effects on employment, income, food security, coping mechanisms, and social protection. The Government of Pakistan conducted the survey to inform policymakers regarding the magnitude of COVID-19's socio-economic consequences at both national and provincial levels.

The PBS survey collected comprehensive information across multiple socio-economic domains, including employment status, household income, second occupations, domestic and foreign remittances, job loss and migration, social protection assistance, food insecurity, coping strategies, mitigation measures, and healthcare access. For this study, selected variables were extracted from relevant survey sections to specifically examine the relationships between labour market disruptions, household coping strategies, social protection interventions, and socio-economic well-being.

The survey methodology was based on the latest 2017 Population and Housing Census sampling frame and employed a nationally representative two-stage stratified random sampling design. The sample was designed using 500 Primary Sampling Units (PSUs) distributed across Pakistan's provinces, including Punjab, Sindh, Khyber Pakhtunkhwa, Balochistan, Islamabad, Gilgit-Baltistan, and Azad Jammu and Kashmir. Recognising that urban populations were expected to be disproportionately affected by lockdowns and economic disruptions, PBS intentionally oversampled urban areas, allocating 70% of the PSUs (349) to urban areas and 30% (151) to rural areas. Within each PSU, households were systematically selected, resulting in approximately 31,022 household observations nationwide. This sampling strategy ensured national representativeness while enhancing sensitivity to urban-rural disparities in COVID-19 impacts.

Variable Selection and Measurement

This study employs three principal independent variables:

- **Job Loss Due to Migration:** Derived from Section C2 of the PBS questionnaire, this variable captures employment disruptions caused by pandemic-related migration and labour displacement.
- **Coping Strategies:** Extracted from Section G, this variable captures household responses to economic shocks, including borrowing, reducing expenditures, selling assets, and other adaptive mechanisms.
- **Social Protection Programs:** Derived from Section E, this variable captures household access to government and non-government assistance programs, particularly cash transfer schemes and related social support.

The dependent variables include:

- **Unemployment:** Derived from Section B, representing labour force participation disruptions and employment status changes.
- **Income Loss:** Extracted from Section C1, measuring reductions in household earnings and financial stability.
- **Food Insecurity:** Derived from Section D, based on indicators related to household access to sufficient and nutritious food during the pandemic.

Analytical Strategy

Data analysis was conducted using the Statistical Package for the Social Sciences (SPSS). The analysis consisted of both descriptive and inferential statistical techniques.

First, descriptive statistics were employed to summarise demographic characteristics, particularly the distributions of region (urban/rural) and gender, as well as key socio-economic variables.

Second, inferential analysis was conducted through multiple regression models to test the proposed hypotheses. Multiple regression analysis was selected because it enables simultaneous examination of the effects of multiple independent variables on key dimensions of socio-economic well-being. Separate regression models were estimated for each dependent variable—unemployment, income loss, and food insecurity—to assess the extent to which job loss due to migration, coping strategies, and social protection programs influenced these outcomes.

This analytical framework allows for a comprehensive evaluation of both direct socio-economic disruptions and the effectiveness of policy interventions during the COVID-19 crisis. By employing nationally representative survey data and robust quantitative techniques, the study provides evidence-based insights into the structural vulnerabilities exposed by the pandemic. It offers important implications for future crisis governance and social protection reforms in Pakistan.

Results

This section presents the empirical findings of the study, including descriptive statistics for key demographic characteristics and inferential analyses examining the effects of job loss due to migration, coping strategies, and social protection programs on unemployment, income loss, and food insecurity during COVID-19 in Pakistan.

Descriptive Statistics

Table 1 presents the frequency distribution of respondents by region and gender. The majority of respondents (68.7%) were from urban areas, while 31.3% were from rural areas, reflecting the survey's deliberate urban oversampling strategy to account for the anticipated disproportionate impact of COVID-19 on urban populations. The gender distribution was relatively balanced, with males comprising 52% of respondents and females 48%.

Table 1: Region and Gender (Frequency Distribution)

Demographics	Frequency	Percent
Rural	9,703	31.3
Urban	21,319	68.7
Total	31,022	100
Male	16,130	52
Female	14,892	48
Total	31,022	100

Source: Authors' Calculations

These demographic patterns suggest that the survey provides broad national coverage while appropriately emphasising urban populations, where labour market disruptions and lockdown effects were expected to be more severe.

Regression Analysis of Unemployment

Table 2 presents the regression results for the impact of job loss due to migration, coping strategies, and social protection programs on unemployment.

Table 2: Regression Analysis of Unemployment

Variable	Coefficients (β)	Significance
Job Loss	0.433	0.000
Coping Strategies	0.426	0.000
Social Protection Programs	0.179	0.000
R ²	0.933	
F-statistic	1604.59	(0.000)

Dependent Variable: Unemployment

Source: Authors' Calculations

The model explains 93.3% of the variance in unemployment ($R^2 = .933$), indicating a very strong overall fit. The F-statistic is highly significant ($p < .001$), confirming the model's explanatory power.

Job loss due to migration has a significant positive effect on unemployment ($\beta = .433$, $p < .001$), supporting H1 and suggesting that pandemic-induced migration-related labour disruptions substantially increased unemployment. Similarly, coping strategies are positively and significantly associated with unemployment ($\beta = .426$, $p < .001$), supporting H4 and indicating that households experiencing unemployment were more likely to adopt financial survival mechanisms.

Contrary to expectations, social protection programs also exhibit a positive and significant relationship with unemployment ($\beta = .179$, $p < .001$), suggesting that existing assistance programs were insufficient to reduce unemployment and thereby fail to support H7.

Regression Analysis of Income Loss

Table 3 presents the regression results for income loss.

Table 3: Regression Analysis of Income Loss

Variable	Coefficients (β)	Significance
Job Loss	0.224	0.000
Coping Strategies	0.38	0.000
Social Protection Programs	0.396	0.000
R ²	0.857	
F-statistic	7903.72	(0.000)

Dependent Variable: Income Loss

Source: Authors' Calculations

The model explains approximately 85.7% of the variance in income loss and shows a highly significant overall fit.

Job loss due to migration significantly increases income loss ($\beta = .224$, $p < .001$), supporting H2. Coping strategies also significantly increase income loss ($\beta = .380$, $p < .001$), supporting H5. Households facing severe income reductions were more likely to borrow, reduce spending, or liquidate assets.

Social protection programs demonstrate a positive and significant relationship with income loss ($\beta = .396$, $p < .001$), contrary to H8. This suggests that social assistance mechanisms primarily functioned as short-term relief rather than effective tools for preventing or reversing income decline.

Regression Analysis of Food Insecurity

Table 4 reports the regression results for food insecurity.

Table 4: Regression Analysis of Food Insecurity

<i>Variable</i>	<i>Coefficients (β)</i>	<i>Significance</i>
<i>Job Loss</i>	0.339	0.000
<i>Coping Strategies</i>	0.471	0.000
<i>Social Protection Programs</i>	0.192	0.000
<i>R²</i>	0.843	
<i>F-statistic</i>	7050.49	(0.000)

Dependent Variable: Food Insecurity

Source: Authors' Calculations

The model explains 84.3% of the variation in food insecurity, with a highly significant F-statistic.

Job loss due to migration significantly increases food insecurity ($\beta = .339$, $p < .001$), supporting H3. Coping strategies have the strongest positive effect on food insecurity ($\beta = .471$, $p < .001$), supporting H6, suggesting that households adopting distress strategies were more likely to experience worsening food insecurity.

Social protection programs again show a positive and significant association with food insecurity ($\beta = .192$, $p < .001$), contradicting H9. These findings imply that existing welfare interventions were insufficient to substantially reduce food insecurity among vulnerable populations.

Hypothesis Testing Summary

Table 5 provides a consolidated summary of all proposed hypotheses and their empirical outcomes. The findings demonstrate that hypotheses related to job loss due to migration (H1–H3) and coping strategies (H4–H6) are fully supported, confirming that these factors significantly worsened socio-economic well-being during COVID-19. In contrast, hypotheses regarding the expected mitigating role of social protection programs (H7–H9) are not supported, indicating that existing social assistance mechanisms were inadequate at reducing unemployment, income loss, and food insecurity.

Table 5: Summary of Hypothesis Testing

<i>Hypothesis</i>	<i>Result</i>
H1: Job loss → Unemployment	Supported
H2: Job loss → Income Loss	Supported

H3: Job loss → Food Insecurity	Supported
H4: Coping Strategies → Unemployment	Supported
H5: Coping Strategies → Income Loss	Supported
H6: Coping Strategies → Food Insecurity	Supported
H7: Social Protection → Unemployment	Not Supported
H8: Social Protection → Income Loss	Not Supported
H9: Social Protection → Food Insecurity	Not Supported

Source: Authors' Calculations

Overall, the empirical results demonstrate that:

- **Job loss due to migration** significantly worsened unemployment, income loss, and food insecurity.
- **Household coping strategies** strongly reflected socio-economic distress and were significantly associated with worsening well-being outcomes.
- **Social protection programs**, while statistically significant, did not reduce unemployment, income loss, or food insecurity as theoretically expected.

These findings suggest that Pakistan's pandemic response mechanisms, particularly social protection interventions, were insufficiently robust to address the structural vulnerabilities exposed by COVID-19, especially among informal-sector workers and economically marginalised households. The results highlight the need for more comprehensive, targeted, and employment-oriented policy interventions beyond temporary cash transfer schemes.

Discussion

The findings of this study provide substantial empirical evidence regarding the severe socio-economic disruptions caused by COVID-19 in Pakistan, particularly through rising unemployment, income loss, and food insecurity. The results are strongly consistent with the national and international literature, which demonstrates that pandemic-induced labour market shocks disproportionately affected vulnerable populations, especially informal-sector workers, daily wage earners, and contract-based employees (Ali et al., 2021; Malik et al., 2020; Wilson et al., 2020).

In line with Keynesian economic theory, the study confirms that job loss due to migration significantly increased unemployment, income loss, and food insecurity. Pandemic-related lockdowns, business closures, and labour displacement substantially reduced aggregate demand, disrupted income generation, and weakened household purchasing power. According to the Pakistan Bureau of Statistics, approximately 37% of the working population either lost their jobs or were unable to work during the peak lockdown period, while millions more experienced severe income reductions. These findings reinforce broader evidence that labour market disruptions during COVID-19 had particularly damaging effects on populations dependent on precarious employment, informal labour, and remittance flows (Khanna, 2020; Gupta, 2021). In developing countries such as Pakistan, where large segments of the workforce lack formal employment protections, these disruptions exposed deep structural vulnerabilities in labour markets and welfare systems.

The significant positive relationship between coping strategies and all three socio-economic outcomes further reflects the depth of household distress during the pandemic. Households that adopted strategies such as borrowing money, reducing food and non-food expenditures, selling productive assets, or delaying essential payments were significantly more likely to experience worsening unemployment, income insecurity, and food shortages. These coping mechanisms should not be interpreted as indicators of resilience alone but rather as signs of financial desperation and deteriorating household welfare. This finding aligns with Mahendra Dev and Sengupta (2020), who argued that crisis-driven coping strategies often reflect underlying socio-economic fragility rather than sustainable adaptation. The widespread reliance on such strategies suggests that many households were forced into survival-oriented economic behaviour due to inadequate institutional support and declining economic opportunities.

Food insecurity emerged as one of the most critical dimensions of well-being affected by COVID-19. The study demonstrates that job loss, declining incomes, and distress-based coping strategies substantially increased food insecurity across Pakistan. These findings are supported by both national and international research indicating that food systems were severely disrupted during the pandemic due to supply chain interruptions, food inflation, reduced purchasing power, and weakened social support structures (Lugo-Morin, 2020; Kent et al., 2020; Singh et al., 2020). In Pakistan's context, where food insecurity was already a major structural challenge before COVID-19, the pandemic intensified pre-existing inequalities. Further, it endangered vulnerable households, particularly those in urban informal settlements and low-income communities.

One of the most significant findings of this study is the unexpected positive relationship between social protection programs and socio-economic hardships. Contrary to the study's theoretical expectations, social protection interventions did not significantly reduce unemployment, income loss, or food insecurity. Instead, social protection variables were positively associated with these adverse outcomes. This result suggests that existing social assistance mechanisms, particularly cash transfer schemes such as the Ehsaas Emergency Cash Program, were insufficient to substantially mitigate the broader structural consequences of the pandemic.

Several factors may explain this paradoxical outcome. First, social protection measures during COVID-19 in Pakistan were primarily designed as short-term emergency relief rather than long-term socio-economic recovery mechanisms. While cash transfers may have provided immediate consumption support, they were inadequate for addressing sustained unemployment, inflation, or broader labour market disruptions. Second, Pakistan's extensive informal economy posed major challenges to effective targeting, as many vulnerable households were excluded from formal databases and lacked access to the digital financial systems needed for timely assistance. Third, social protection programs may have been disproportionately accessed by households already experiencing severe economic distress, which could explain the observed positive statistical relationship between receipt of social assistance and socio-economic hardship.

These findings are consistent with broader global evidence suggesting that emergency cash transfers alone are insufficient in contexts where structural vulnerabilities, labour informality, and weak institutional capacity remain pervasive (Davidovic et al., 2020; Gentilini et al., 2022). Effective social protection during crises requires more comprehensive frameworks that combine immediate welfare support with active labour market policies, unemployment insurance, health protections, and broader socio-economic inclusion strategies.

From a governance perspective, the study highlights important limitations in reactive policy responses to large-scale crises. Decision theory emphasises rational and strategic policy formulation under uncertainty, yet Pakistan's pandemic response appears constrained by fiscal limitations, administrative capacity, and institutional fragmentation. Although emergency social protection programs played a necessary role, their limited structural effectiveness suggests that broader crisis governance systems were insufficiently developed to address the multidimensional nature of pandemic-related socio-economic shocks.

Overall, this study contributes to broader debates on crisis governance, welfare effectiveness, and socio-economic resilience by demonstrating that COVID-19 exposed and amplified pre-existing structural weaknesses in Pakistan's labour markets, food systems, and social protection architecture. The interconnected nature of unemployment, income loss, and food insecurity indicates that future crisis responses cannot rely solely on temporary welfare interventions. Instead, more integrated, evidence-based, and resilience-oriented public policy frameworks are necessary to strengthen labour market inclusion, improve the targeting of social protection, and safeguard vulnerable populations during future shocks.

In conclusion, the discussion underscores that while Pakistan's social protection programs provided important short-term relief during COVID-19, their limited capacity to address deeper structural vulnerabilities highlights the urgent need for comprehensive policy reforms. Future crisis governance must move beyond temporary assistance toward broader socio-economic resilience strategies that promote sustainable employment, inclusive welfare systems, and long-term well-being.

Conclusion

The COVID-19 pandemic generated unprecedented socio-economic disruptions globally, profoundly affecting livelihoods, labour markets, and food systems. In Pakistan, the pandemic exposed and intensified existing structural vulnerabilities, particularly among informal-sector workers, daily wage earners, and economically marginalised households. Through lockdowns, business closures, migration-related job losses, and widespread economic uncertainty, COVID-19 significantly increased unemployment, reduced household incomes, and worsened food insecurity across the country.

This study provides comprehensive empirical evidence that job loss due to migration and household coping strategies were significant drivers of worsening socio-economic well-being during the pandemic. The findings demonstrate that labour market disruptions and survival-oriented coping mechanisms substantially increased unemployment, income loss, and food insecurity, thereby confirming the deep interconnectedness of economic and social vulnerabilities during crisis periods. Households facing employment instability were compelled to adopt distress-based strategies such as borrowing, reducing expenditures, and selling assets, which further reflected declining resilience and increased socio-economic insecurity.

A central contribution of this study is its critical assessment of social protection programs during the COVID-19 pandemic. Although government interventions, such as the Ehsaas Emergency Cash Program, provided important short-term assistance, the findings indicate that existing social protection mechanisms were insufficient to effectively mitigate broader structural hardships. Social protection programs did not significantly reduce unemployment, income loss, or food insecurity to the extent anticipated by theory. This limitation can largely be attributed to Pakistan's large informal economy, weak socio-economic targeting systems, limited institutional coverage, and the narrow focus on short-term cash transfers rather than broader socio-economic recovery measures.

The study, therefore, underscores that crisis governance cannot rely solely on temporary relief-oriented welfare measures. Addressing large-scale socio-economic crises requires comprehensive, integrated, and resilience-focused public policy frameworks. In Pakistan's context, this includes expanding inclusive social protection systems, strengthening labour-market formalisation, improving social registries for informal workers, and developing active labour-market policies that promote sustainable employment generation. Policies such as vocational training, wage subsidies, job creation initiatives, support for micro-enterprises, and digital inclusion programs are essential to strengthening long-term socio-economic resilience.

Furthermore, the government should prioritise investment in reliable socio-economic databases to improve the identification and targeting of vulnerable populations, particularly those employed in informal sectors who often remain excluded from formal social protection mechanisms. Future crisis responses must also integrate broader forms of social insurance, including unemployment benefits, health protection, and food security interventions, rather than depending primarily on emergency cash assistance.

While this study makes important contributions to understanding the socio-economic consequences of COVID-19 in Pakistan, it faces certain limitations. The use of secondary survey data largely restricts the analysis of government intervention to cash transfer programs, limiting a broader examination of other policy instruments such as labour market interventions, food subsidies, or healthcare support. Future research should therefore explore more comprehensive dimensions of crisis governance and evaluate the long-term effectiveness of diverse policy responses in promoting resilience and social well-being.

In conclusion, COVID-19 has highlighted the urgent need for stronger, evidence-based, and structurally inclusive governance systems capable of protecting vulnerable populations during large-scale crises. Pakistan's experience demonstrates that while emergency social protection measures are necessary, they are insufficient in isolation. Sustainable socio-economic recovery requires broader policy reforms that integrate employment generation, expanded social protection, food security, and institutional capacity-building. By addressing these structural challenges, policymakers can better prepare for future crises and enhance the resilience and well-being of populations in Pakistan and other developing economies.

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