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Impact of COVID-19 on Livelihood Activities of the People in District Dir Lower, Khyber Pakhtunkhwa

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Abstract
This study examines the impact of COVID-19 on the livelihood activities of people in District Dir Lower. Despite the global attention given to the pandemic's economic consequences, previous research has largely overlooked its specific impact on people's livelihood activities, and no quantitative study has been conducted in this regard in District Dir Lower. To address this gap, the present study employed a multistage purposive sampling technique for selecting respondents. Primary data were gathered using a semi-structured questionnaire and an interview schedule. A binary logistic regression model was applied to assess the impact of COVID-19 on people's livelihood activities. The results indicate that COVID-19 has a significant impact on people's livelihood activities in District Dir Lower. The study recommends that governments and employers should offer paid sick leave and job retention programs to support employees in future pandemics. The government and private sectors should provide unconditional cash assistance to families severely impacted by the pandemic. This study provides a unique perspective on the impact of COVID-19 on the livelihood activities of people in District Dir Lower, providing valuable findings that have not explored before. These findings compel various organizations and development agencies to provide targeted livelihood assistance for vulnerable households in the form of cash assistance, relief funds, livelihood trainings, and community-based programs to mitigate the effects of COVID-19.

Keywords: COVID-19 Pandemic, Livelihood Activities, Rural Households, District Dir Lower, Khyber Pakhtunkhwa

INTRODUCTION

Coronaviruses constitute a large family of viruses capable of infecting both animals and humans. These respiratory viruses were first identified in the mid-1960s and derive their name from the crown-like spikes on their surfaces. Over the years, coronaviruses have been linked to multiple outbreaks worldwide. They typically originate in animals and, under certain conditions, can be transmitted to humans. Once introduced into human populations, these viruses spread from person to person (Laguipo, 2021). Coronaviruses are categorized into four groups: alpha (α), beta (β), gamma (γ), and delta (δ). While alpha and beta coronaviruses primarily affect mammals, gamma and delta coronaviruses on the other hand are mostly found in birds. Among the coronaviruses known to infect humans, two α-coronaviruses—HCoV-229E and HCoV-NL63—cause mild respiratory symptoms. Similarly, two β-coronaviruses—HCoV-HKU1 and HCoV-

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OC43—are associated with common cold-like illnesses. However, other β-coronaviruses, such as SARS-CoV and MERS-CoV, can lead to severe and potentially fatal respiratory diseases (Amin et al., 2021).

The seventh known human coronavirus, COVID-19, was first identified in December 2019 in China. The virus rapidly spread across nearly 160 countries, leading to over 200,000 confirmed cases and 8,000 deaths. In response to its widespread impact, the World Health Organization (WHO) declared COVID-19 a global pandemic on March 11, 2020 (Baloch et al., 2020; Spinelli et al., 2020; Zhu et al., 2020). Pakistan reported its first COVID-19 case on February 26, 2020, in Karachi, Sindh, with another case confirmed the same day in the capital Islamabad (Waris et al., 2020). In nearly two weeks, the number of confirmed cases rose to 20 out of 471 suspected cases, with a positivity rate of 4.24% (Saqlain et al., 2020). By June 17, 2020, every district in Pakistan had recorded at least one confirmed case. As of June 22, 2022, the country had reported a total of 1.532 million cases, including 30,385 fatalities, 1.495 million recoveries, and 7,133 active cases (Ahmad & Jan, 2023).

Apart from human losses, the COVID-19 has resulted in substantial effects in all aspects of life. To address the difficulties brought about by COVID-19 and minimize the spread of the virus, nearly all countries have implemented crucial measures, including lockdowns, restrictions on transportation and mass mobility, maintain social distancing, and reduced working hours. These unprecedented measures interrupted supply chains from producers to customers, halted economic activities, and impacted the livelihoods of people (Asegie et al., 2021). Roughly half of the global labor force (3.3 billion) is facing the threat of losing their livelihoods. Workers in the informal sector face a heightened risk due to limited social protection, inadequate healthcare, and restricted access to productive resources. The loss of income during lockdowns has made it difficult for many to afford basic necessities, especially food. As a result, financial hardship has led to food insecurity, affecting both the quantity and nutritional quality of their diets (WHO, 2020).

Pakistan, the sixth most populous country in the world, ranked 152nd out of 189 nations in the 2019 Human Development Index (HDI) under the medium human development category. Gender inequality remains a major concern, with female labor force participation at just 27% in 2018. The informal economy dominates non-agricultural employment, accounting for 78% of jobs, with nearly 22 million people engaged in this sector, a significant proportion of whom are women. Additionally, an estimated 8.5 million domestic workers—the majority of them women—are part of this workforce (UNDP, 2020).

The COVID-19 pandemic further exacerbated these challenges, deeply affecting communities across Pakistan, including District Dir Lower. The district reported its first case on March 15, 2020, when a woman returning from Umrah in Saudi Arabia tested positive. The announcement caused widespread fear and uncertainty, quickly spreading anxiety throughout the region. To contain the virus, authorities enforced strict measures such as restrictions on movement and public transport, business closures, and limitations on income-generating activities, all of which severely impacted people's livelihoods (Ahmad & Jan, 2023). In light of the devastating influences of the COVID-19, this study investigates the impact of COVID-19 and its significant relationship with people's livelihood activities in District Dir Lower.

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LITERATURE REVIEW

This section reviews previous literature on the current issue, providing a summary of studies conducted by various researchers nationally and internationally.

The Government of Pakistan (2020) reported the impact of COVID-19 on people's employment and income in Pakistan. The report observed that 37% of the working population lost their jobs or were not working during COVID-19. The highest percentage was reported in Baluchistan and Sindh, both with 39%, followed by Punjab with 37% and Khyber Pakhtunkhwa (KP) with 29%. About 12% of the working population experienced a decline in their income, with the largest proportion in KP with 26%, followed by Sindh with 11%, Punjab with 10%, and Baluchistan with 8%. The lockdowns and necessary measures to control the transmission of COVID-19 affected businesses. Almost half of the labor force was affected, particularly daily wage earners, casual laborers, and self-employed individuals in non-agricultural sectors.

Shafi et al. (2020) examined the impact of the coronavirus on micro, small, and medium-sized enterprises (MSMEs) in Pakistan. Online data were collected via questionnaires from 184 MSMEs across various cities. The results show that approximately 95% of the enterprises reported being affected by the pandemic or lockdown, while approximately 3% reported no impact, and about 2% were unsure of the impact. To address the pandemic, 31% of enterprises have totally shut down their businesses in response to the pandemic, while an additional 19% partially closed their operations.

Yamano et al. (2020) investigated the influences of COVID-19 on farm families in province Punjab, Pakistan, using cross-sectional data from over 400 farmers. Their findings revealed that nearly one-third of households experienced a decline in wage and earning from non-farm activities. Additionally, 22% of household members migrated back to their hometowns from urban areas. The lockdown caused major disruptions in the production and distribution of agricultural produce including dairy, vegetables, and fruits, while the harvesting and marketing of wheat remained largely unaffected.

Asegie et al. (2021) conducted the impact of COVID-19 on rural livelihoods in Ethiopia. Using a multistage sampling method, data were collected from 275 respondents through structured interviews. The study found that crop production was the primary livelihood activity, followed by livestock rearing, daily labor, small businesses, livestock trading, and remittances. The results indicated that 89% of respondents experienced negative economic impacts due to the pandemic, with crop production being the most affected sector, followed by livestock rearing, daily labor, small businesses, and remittances. Furthermore, 17% of respondents were forced to abandon their livelihood activities entirely as a result of COVID-19.

Gatto et al. (2021) analyzed the effects of COVID-19 on rural livelihoods in Bangladesh. The data were collected before pandemic (2018) and after pandemic (2020). The research revealed that the COVID-19 pandemic and lockdowns had a profound effect on livelihoods of rural communities. Surprisingly, the fear of illness had a more pronounced influence on livelihood outcomes than the direct consequences of the pandemic. Concerns about health played a crucial role in food security, as decreased agricultural production of staple crops led to reduced market sales, and limited mobility resulted in lower spending on perishable food

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items such as fruits. Moreover, households cut back on healthcare expenses due to fear of illness, potentially exacerbating health conditions compared to those primarily affected by mobility restrictions and other containment measures.
According to The Nation (2021), Pakistan's working population experienced a significant decline due to the impact of COVID-19. Before the pandemic, approximately 56 million people were employed, but this number dropped to 35 million, marking a 59% reduction in the workforce. The economic downturn particularly affected key sectors such as construction, manufacturing, transport, and wholesale and retail, with the construction and manufacturing industries facing the most severe disruptions. This decline was largely driven by reduced consumer and business confidence, along with production and supply chain disruptions. Estimates suggest that 80% of workers in these sectors lost their jobs, struggled to secure new employment, or suffered a significant decrease in income.

Paul et al. (2021) explored the psychological and livelihood effects of the COVID-19 on low-income individuals in Bangladesh. The study surveyed 576 respondents to collect quantitative data and conducted 30 in-depth interviews across various districts to gather qualitative insights. The findings revealed that 94% of respondents reported their livelihoods were negatively impacted by the pandemic. While daily workers experienced relatively less disruption compared to those unemployed, the fear of infection and the loss of livelihood sources caused significant stress for 77% of the respondents. The industrial workers, farmers, and daily laborers reported higher levels of stress compared to other groups.

Thompson et al. (2021) highlighted the effects of COVID-19 on livelihoods and food security in various countries worldwide. The study observed that the pandemic and associated control measures have negatively affected livelihoods and food systems in Africa. Government interventions such as lockdowns, border closures, and business shutdowns have resulted in economic downturns, job losses, and increased poverty. In Pakistan, 20.7 million people lost their jobs between June and December 2020. Prolonged lockdowns have disrupted food supply chains, while declining incomes have impacted food security and livelihoods.

The COVID-19 has overwhelming effects on livelihoods worldwide, including in Pakistan. It has led to job losses, economic hardship, poverty, food insecurity, and other socioeconomic challenges for many people. Despite the well-known impact of COVID-19 on livelihoods worldwide, there is a lack of specific understanding of how it has affected the people in District Dir Lower. While many studies have examined the social and economic effects of the pandemic on a larger scale, there is a lack of research focusing on the people's livelihoods in this particular region. To our knowledge, no quantitative study has been conducted and analyzed regarding the impact of COVID-19 on people’s livelihood activities in District Dir Lower. The lack of study limits our understanding and necessitates filling the gap by investigating the impact of COVID-19 on the people's livelihood activities in the district.

MATERIALS AND METHODS

This section outlines the methods, including the materials and procedures used to conduct the research in the study area. The details are presented as follows.

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Study Area

District Dir Lower was the study area situated in Malakand Division, KP. It covers a total land area of 1583 km^2 and has a population of around 1.44 million, consisting of 51 percent females and 49 percent males, with a population density of 907.19 persons/ km^2.

Sampling Technique and Sample Size

A multistage random sampling technique was applied to select the sample size in the research area. Initially, District Dir Lower was purposively selected from the 36 districts in KP. The district was chosen because it was initially one of the most affected districts and had a diverse range of people's livelihoods. Following this, two Tehsils – Adenzai and Timergara – were purposively selected because of their high population density and people's socioeconomic conditions. Subsequently, two Village Councils (VCs) were purposively chosen from each tehsil for the convenience of data collection. In Tehsil Adenzai, the VCs of Badwan Bala and Tendodog were included, while in Tehsil Timergara, the VCs of Amlook Dara and Nasafa were chosen. Finally, the proportional allocation sampling technique was applied to select 364 households from a total of 4,017 households. The sample size was determined using Yamane's formula, as presented in Equation 1 below.

$$n = \frac{N}{1 + N\,(e)^2} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

Where:
n = Total sample size
N = Total population
e = Margin of error (5%)
The total sample can be calculated by putting the values into Equation 1 as follows.
n = 4017/1+4017× (0.0025) = 364
The Proportional allocation technique is given in Equation 2 as follows.

$$n_i = \frac{N_i}{N} \times n \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)$$

Where:
n_i = Sample size in each VC
Ni = Total No. of households in each VC
N = Total households in all VCs
n = Total sample size
The sample size for each VC is calculated using Equation 2 as shown in Table 1 below.

Table 1
VC wise distribution of sample size in the study area

Tehsils	VCs	Total No. of households	Sample size
Adenzai	Badwan Bala	1372	1372/4017 × 364 = 124
	Tendodog	957	957/4017 × 364 = 87
Timergara	Amlook Dara	751	751/4017 × 364 = 68
	Nasafa	937	937/4017 × 364 = 85
	Total	4017	364

Source: Government of Pakistan, 2017

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Data Source and Data Collection Tools

The present study depends on primary data gathered from a sample of households in the research area. These sampled households are the primary source of data collection. Cross-sectional data were collected in the COVID-19 era, from April 2020 to May 2021. Data collection was conducted using a semi-structured questionnaire and personal interviews with household heads. The household heads of the selected households represented as sample respondents in the research area.

Data Analysis

The data gathered from the sampled households were analyzed using SPSS. The study utilized both descriptive and inferential statistical methods. Descriptive statistics included calculating basic frequencies and percentages, while inferential statistics utilized a binary logistic regression model to assess the impact of the COVID-19 pandemic on people's livelihoods. The model is presented in Equation 3.

$$logit\left(P(Y=1)\right) = \ln\left(\frac{P(Y=1)}{1-P(Y=1)}\right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 \ldots\ldots (3)$$

Where:

P(Y = 1) = Probability of livelihood activities of people affected by COVID-19
ln (p(Y=1)/1-p(Y=1) = log odds of livelihood activities affected by COVID-19
X_1 = Age of household heads (Years)
X_2 = Education level of household heads (Years)
X_3 = Land size (Kanal)
X_4 = Livestock holdings (No. of animals owned)
X_5 = Lockdown duration (Weeks)
β_0 = Intercept of the model
$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ = coefficients of independent variables

RESULTS AND DISCUSSION

This section highlights the results and discussion of the data collected from the field. It deals with the socioeconomic characteristics of respondents and determines the impact of COVID-19 on people's livelihood activities.

Age of Respondents

Age can play a significant role in shaping the livelihoods of individuals, influencing their career choices, job stability, and overall financial well-being. The pandemic has highlighted the interconnectedness of age and livelihoods, with each age group facing unique challenges and vulnerabilities. The age distribution of the sampled respondents in various VCs is presented in Table 2.

Table 2

Distribution of Respondents by Age

VCs	18-40		41-60		Above 60	
	Freq.	%	Freq.	%	Freq.	%
Badwan Bala	42	34	66	53	16	13
Tendodog	32	37	48	55	7	8
Amlook Dara	26	38	38	56	4	6
Nasafa	17	20	56	66	12	14
Total	117	32	208	57	39	11

Source: Authors' Estimation

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Table 2 presents that the majority (57%) fell within the 41–60 age group, followed by 32% in the 18–40 age group and 11% in the 60 and above age group. Among respondents aged 41–60 years, VC Nasafa had the highest proportion (66%), followed by Amlook Dara (56%), Tendodog (55%), and Badwan Bala (53%). In the 18–40 age group, the largest share of respondents was in VC Amlook Dara (38%), followed by Tendodog (37%), Badwan Bala (34%), and Nasafa (20%). For respondents above 60 years, VC Nasafa had the highest percentage (14%), followed by Badwan Bala (13%), Tendodog (8%), and Amlook Dara (6%).

Education Level of Respondents

The education level of household heads can significantly impact people's livelihoods. Higher education is linked to better job opportunities, higher income, and financial stability. Educated household heads are more likely to have secure jobs, savings, and resources to navigate economic challenges like the pandemic. In contrast, those with lower education levels may struggle to maintain their livelihoods. They have limited job options, lower earnings, and fewer resources, making them vulnerable to job loss and financial hardship, especially in global crises like COVID-19. The distribution of education level of the respondents in various VCs is highlighted in Table 3 below.

Table 3

Respondents' distribution based on education level

VCs	Illiterate		Up to matric		Intermediate		Bachelor & above	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Badwan Bala	3	2	42	34	27	22	52	42
Tendodog	2	2	35	40	30	34	20	23
Amlook Dara	1	1	27	40	18	26	22	32
Nasafa	5	6	46	54	20	24	14	16
Total	11	3	150	41	95	26	108	30

Source: Authors' Estimation

Table 3 highlights that the majority of respondents (41%) had education up to the matric level, followed by 30% who had a bachelor's degree or higher, 26% with an intermediate level of education, and 3% who were illiterate.Among those with education up to the matric level, the highest proportion was in VC Nasafa (54%), followed by Tendodog and Amlook Dara (40% each) and Badwan Bala (34%). For respondents with a bachelor's degree or higher, VC Badwan Bala had the largest share (42%), followed by Amlook Dara (32%), Tendodog (23%), and Nasafa (16%). Regarding intermediate-level education, VC Tendodog had the highest percentage (34%), followed by Amlook Dara (26%), Nasafa (24%), and Badwan Bala (22%). Among illiterate respondents, the highest proportion was in VC Nasafa (6%), followed by Badwan Bala and Tendodog (2% each), and Amlook Dara (1%).

Land Size of Respondents

Land size enables farmers to implement more efficient farming methods, boost crop yields, and diversify their agricultural activities. This can result in higher

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incomes, enhanced food security, and improved livelihoods for rural communities. The significance of land size becomes even more pronounced during times of supply chain disruptions or limited market access due to crises and economic difficulties. The distribution of land size of respondents in various VCs is indicated in Table 4 below.

Table 4
Respondents' Distribution Based on Land Size (in Kanals)*

VCs	Up to 5		6-10		11-15		Above 15	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Badwan Bala	35	28	46	37	27	22	16	13
Tendodog	31	36	29	33	19	22	8	9
Amlook Dara	20	29	26	38	16	24	6	9
Nasafa	36	42	14	16	28	33	7	8
Total	122	34	115	32	90	25	37	10

Source: Authors' Estimation
*Note.*1 Kanal = 0.125 Acre (1 Acre = 8 Kanals) (Ahmad & Ahmad, 2024).*

Table 4 reveals that the majority of respondents (34%) had a land size of up to 5 kanals, followed by 32% with 6–10 kanals, 25% with 11–15 kanals, and 10% with more than 15 kanals. Among those with land up to 5 kanals, VC Nasafa had the highest proportion of respondents (42%), followed by Tendodog (36%), Amlook Dara (29%), and Badwan Bala (28%). In the 6–10 kanals category, VC Amlook Dara had the highest percentage of respondents (38%), followed by Badwan Bala (37%), Tendodog (33%), and Nasafa (16%). For land sizes from 11–15 kanals, VC Nasafa recorded the largest share of respondents (33%), followed by Amlook Dara (24%), while Badwan Bala and Tendodog had 22% each. For land size of above 15 kanals, VC Badwan Bala had the highest proportion of respondents (13%), followed by Tendodog and Amlook Dara each (9%), and Nasafa (8%)

Livestock Holdings of Respondents

Livestock are a vital component of rural livelihoods, providing income, food security, asset building, employment, for many rural communities around the country. It can also provide a buffer against economic shocks and food shortages during crises. Livestock can be a source of food security, providing meat, milk, and other products for households to consume during times of scarcity. Livestock can also be sold or traded for other goods and services, helping to sustain livelihoods and support communities during difficult times. The distribution of respondents by livestock holdings is shown in Table 5 as follows.

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Table 5
Distribution of Respondents by Livestock Holdings

VCs	Up to 4		5-8		Above 8	
	Freq.	%	Freq.	%	Freq.	%
Badwan Bala	80	65	32	26	12	10
Tendodog	60	69	21	24	6	7
Amlook Dara	54	79	12	18	2	3
Nasafa	63	74	18	21	4	5
Total	257	71	83	23	24	7

Source: Authors' Estimation

Table 5 illustrates that the majority of respondents (71%) owned up to 4 animals, followed by 23% who owned 5–8 animals, and 7% who owned more than 8 animals. Among those with up to 4 animals, VC Amlook Dara had the highest proportion of respondents (79%), followed by Nasafa (74%), Tendodog (69%), and Badwan Bala (65%). In the 5–8 animals category, VC Badwan Bala had the largest share of respondents (26%), followed by Tendodog (24%), Nasafa (21%), and Amlook Dara (18%). For those owning more than 8 animals, VC Badwan Bala recorded the highest percentage (10%), followed by Tendodog (7%), Nasafa (5%), and Amlook Dara (3%).

Lockdown Duration Experienced by Respondents

The lockdown has resulted in job losses and reduced income for many individuals due to business closures, affecting livelihoods for families nationwide. Respondents in the research area have experienced varying durations of lockdown depending on their location. The details are presented in Table 6 as follows.

Table 6
Distribution of Respondents by Lockdown Duration Experienced (Weeks)

VCs	Up to 7		Above 7	
	Freq.	%	Freq.	%
Badwan Bala	0	0	124	100
Tendodog	0	0	87	100
Amlook Dara	68	100	0	0
Nasafa	85	100	0	0
Total	153	42	209	58

Source: Authors' Estimation

Table 6 shows that the majority of respondents (58%) experienced a lockdown duration of more than 7 weeks, while 42% experienced a lockdown of up to 7 weeks. In the above 7 weeks category, all (100%) respondents in VCs Badwan Bala and Tendodog experienced a lockdown lasting more than 7 weeks. Conversely, in the up to 7 weeks category, all (100%) respondents in VCs Amlook Dara and Nasafa experienced a lockdown of up to 7 weeks.

Major Livelihood Activities of Respondents

In the field of research, individuals are involved in a range of livelihood activities, including agriculture, business, remittances, salaried employment, and daily labor. These diverse livelihood activities of respondents are illustrated in the diagram provided in Figure 1.

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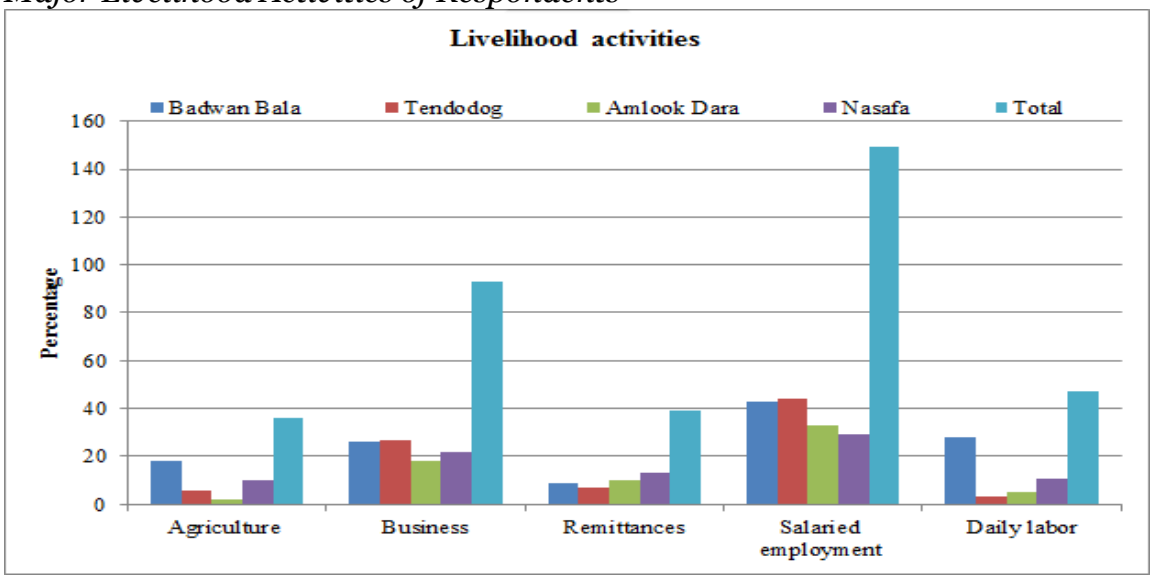
Figure 1
Major Livelihood Activities of Respondents



Source: Authors' Estimation

Based on Figure 1, salaried employment is the most common livelihood activity, with 149 (41%) respondents engaged in it, followed by business with 93 (26%) respondents, daily labor with 47 (13%) respondents, remittances with 39 (11%) respondents, and agriculture with 36 (10%) respondents. In salaried employment, VC Tendodog had the highest number of respondents with 44 (30%), followed by Badwan Bala with 43 (29%), Nasafa with 29 (19%), and Amlook Dara with 11 (22%). In the business sector, the highest percentage was in VC Tendodog with 27 (29%) respondents, followed by Badwan Bala with 26 (28%), Nasafa with 22 (24%), and Amlook Dara with 18 (19%). In daily labor, VC Badwan Bala had the largest share with 28 (60%) respondents, followed by Nasafa with 11 (23%), Amlook Dara with 5 (11%), and Tendodog with 3 (6%). Regarding remittances, VC Nasafa had the greatest proportion with 13 (33%) respondents, followed by Amlook Dara with 10 (26%), Badwan Bala with 9 (23%), and Tendodog with 7 (18%). Finally, in agriculture, VC Badwan Bala had the highest percentage with 18 (50%) respondents, followed by Nasafa with 10 (28%), Tendodog with 6 (17%), and Amlook Dara with 2 (6%).

Effects of COVID-19 on Livelihoods Activities of Respondents

The COVID-19 pandemic had a far-reaching impact on the livelihood activities of the majority of respondents, while a smaller proportion remained unaffected. The details are presented in Figure 2 as follows.

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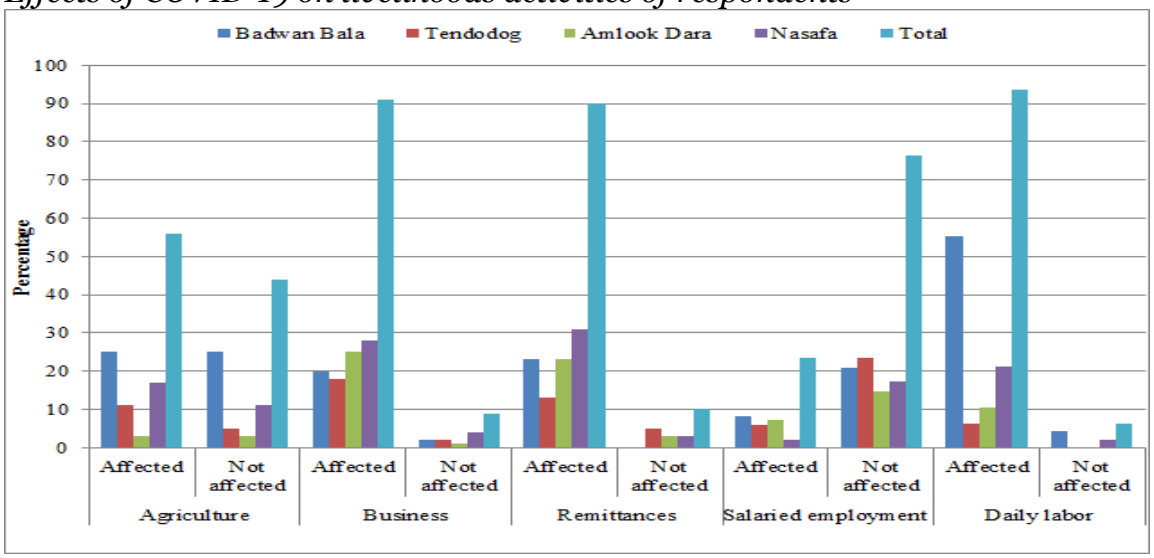
Figure 2

Effects of COVID-19 on livelihoods activities of respondents



Source: Authors' Estimation

Figure 2 illustrates that daily labor was mostly affected by COVID-19, followed by business, remittances, agriculture, and salaried employment. Daily labor was affected for 94% respondents, with the highest impact in VC Badwan Bala and the lowest in Tendodog. For business, 91% of respondents were affected, with the highest impact in VC Tendodog and the lowest in Amlook Dara. Remittances were affected for 90% of respondents, with the highest impact in VC Nasafa and the lowest in Tendodog. Agriculture was affected for 56% of respondents, with the highest impact in VC Badwan Bala and the lowest in Amlook Dara. Salaried employment was affected for 23% of respondents, with the highest impact in VC Badwan Bala and the lowest in Nasafa.

Based on the Figure, salaried employment was less affected, followed by agriculture, remittances, business, and daily labor. Salaried employment was not affected for 77% of respondents, with the highest impact in VC Tendogog and the lowest in Amlook Dara. Agriculture was not affected for 44% of respondents, with the highest impact in VC Badwan Bala and the lowest in Amlook Dara. Remittances were not affected for 10% of respondents, with the lowest impact in VC Nasafa and the highest in Tendodog. For business, 9% of respondents were not affected, with the lowest impact in VC Amlook Dara and the highest in Tendodog. In daily labor, 6% of respondents reported no impact, with the lowest impact in VCs Tendodog and Amlook Dara, and the highest in Badwan Bala. In a future pandemic, it is essential for governments and employers to offer paid sick leave and job retention programs to assist employees. Additionally, the government and private sectors should provide unconditional assistance to the families severely affected by the pandemic. These observations align with the study conducted by Ahmad and Jan (2023).

Measuring the Impact of COVID-19 on People's Livelihood Activities

In this section, a logistic regression model was used to examine the effects of COVID-19 on livelihood activities of the people. In this model, the livelihood activities of people (1= affected by COVID-19, 0 = not affected) is the dependent variable, while age, education level, land size, livestock holdings, and lockdown

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duration are independent variables. The results of the logistic regression model estimating the impact of COVID-19 on people's livelihoods activities are presented in the Table 7.

Table 7
Results of the Logistic Regression Model Estimating the Impact of COVID-19 on People's Livelihoods Activities

Variables	Coefficients	Std. Error	Wald	p	Odds ratio
Age	.228	.076	9.055	.003	1.255
Education level	-.121	.032	14.104	.000	.886
Land size	-.173	.029	36.368	.000	.841
Livestock holdings	-.140	.064	4.845	.028	.870
Lockdown duration	.577	.147	15.470	.000	1.780
Constant	1.303	.474	7.564	.006	3.679

Chi-square = 184.23
p-value = 0.000
-2 Log likelihood = 318.75
Nagelkerke R^2 = 0.463
Source: Authors' Estimation

The results in Table 7 show a statistically significant relationship between the dependent variable and all independent variables. Age had an odds ratio of 1.255, indicating a positive and statistically significant association with people's livelihood activities ($p<0.01$). This suggests that for every additional year in the age of the household head, the odds of people's livelihood activities affected by COVID-19 increase by 1.255 times. Older individuals are more vulnerable to severe illness and complications from COVID-19, leading them to be more cautious and limit their activities, including work, which can affect their livelihoods. Studies by Quinby et al. (2021) and Pit et al. (2021) similarly support the idea that age plays a significant role in COVID-19's impact on employment, with older workers facing greater risks and challenges due to the virus. The odds ratio for educational level was 0.886, indicating a significant but negative relationship with people's livelihood activities ($p<0.01$). This advocates that for every additional year of education level, the odds of livelihood activities being impacted by COVID-19 decrease by 0.866 times, holding all other variables constant. Khalid and Shahnaz (2021) similarly found that individuals with higher education were less prone to jobs loss due to the COVID-19 pandemic compared to those with no formal education.

The odds ratio for land size was 0.841, indicating a significant negative association with people's livelihood activities ($p<0.01$). This implies that for each additional kanal in the land size, the odds of people's livelihood activities impacted by COVID-19 decrease by 0.841 times. Asegie et al. (2021) discovered that COVID-19 had an impact on the livelihood activities of people in Ethiopia. The odds ratio for livestock holdings was 0.870, demonstrating a significant but negative relationship with people's livelihood activities ($p<0.05$). This means that for an additional animal in the livestock holdings, the odds of people's

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livelihood activities impacted by COVID-19 decrease by 0.870 times. Livestock can offer households an extra income stream, lessening their dependence on vulnerable sources during the pandemic. It also provides a food source, reducing reliance on disrupted external food supplies. Livestock act as a financial buffer, as they can be sold or used for food in emergencies. By increasing livestock, households can generate income internally, reducing the need for outside employment and potential exposure to the virus.

The odds ratio for lockdown duration was 1.780, indicating a significant and positive relationship with people's livelihood activities ($p<0.01$). This implies that for every 1-week increase in lockdown duration, the odds of people's livelihood activities affected by COVID-19 increase by 1.780 times. This finding aligns with the results of Wang et al. (2020), who also observed a significant impact of lockdowns on people's livelihoods globally. The closure or reduction of businesses due to lockdown measures has resulted in job losses and financial difficulties for many people and household members.

The estimated results indicate that the model has a Nagelkerke R^2 value of 0.463, meaning that 46.3% of the variation in livelihood activities of the people affected by COVID-19 is explained by the independent variables included in the model. Additionally, the Chi-square test yielded statistically significant results at the 1% level, confirming that the model as a whole is statistically significant.

CONCLUSIONS AND RECOMMENDATIONS

The study concludes that the COVID-19 pandemic had a widespread impact on human life, particularly affecting economic well-being. In Pakistan, including District Dir Lower, the pandemic significantly disrupted livelihoods. This research examines the specific impact of COVID-19 on people's livelihoods activities in District Dir Lower. The findings reveal that COVID-19 had a statistically significant impact on people's livelihood activities.

Based on the study findings, the following recommendations are suggested:

In the event of a future pandemic, governments and employers should provide paid sick leave and implement job retention programs to support employees, ensuring financial stability and reducing the risk of job loss. The government and private sectors should offer unconditional cash assistance to families severely affected by the pandemic, helping them meet basic needs and recover from economic shocks.

Implications

The present study adds meaningful insights to the existing literature by contributing empirical evidence on the effects of COVID-19 on livelihood activities of the people in rural regions. The findings enhance the understanding of how socioeconomic conditions, in conjunction with COVID-19 lockdowns, influence and shape livelihood outcomes of the people in rural areas.

From a practical perspective, the findings support policy initiatives by private and public organizations, as well as development agencies, in planning targeted livelihood support programs, particularly for vulnerable rural families. The study emphasizes the need for social protection programs like emergency relief funds, livelihood diversification trainings, and community-based support programs to minimize the long-term socioeconomic effects of the COVID-19 pandemic.

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Delimitations and Future Directions

This study is limited to District Dir Lower, which may limit the generalizability of the findings to other geographical areas. Additionally, aside from the selected independent variables, the study excluded potentially relevant and important variables such as gender, family income, and market access. The study is based on cross-sectional data collected for one year, and it only consists of families who experienced lockdowns—excluding the most vulnerable and severely affected families who totally dropped out of livelihood activities.

For future studies, a comparative study across various districts is recommended to increase the generalizability of the pandemic's impact. In addition, panel data should be collected, and potentially relevant variables such as gender, family income, and market access should be incorporated. Future research should also include vulnerable and marginalized families, particularly those who are severely affected and completely lost their livelihood activities.

REFERENCES

Ahmad, I., & Ahmad, S. (2024). Impact of Credit Advanced by Zarai Taraqiati Bank Limited on the Income of Farmers in the Livestock Sector in District Dir Lower, Khyber Pakhtunkhwa. *Journal of Development and Social Sciences*, *5*(2), 315-326. https://doi.org/10.47205/jdss.2024(5-II-S)31

Ahmad, I., & Jan, I. (2023). Effect of Covid-19 on Income of The People in District Dir Lower, Khyber-Pakhtunkhwa. International Journal of Human and Society, 3(4), 435446.

Amin, M. T., Hasan, M., & Bhuiya, N. M. A. (2021). Prevalence of COVID-19 associated symptoms, their onset and duration, and variations among different groups of patients in Bangladesh. *Frontiers in Public Health, 9*, 738352. https://doi.org/10.3389/fpubh.2021.738352

Asegie, A. M., Adisalem, S. T., & Eshetu, A. A. (2021). The effects of COVID-19 on livelihoods of rural households: South Wollo and Oromia Zones, Ethiopia. *Heliyon*, *7*(12). https://doi.org/10.1016/j.heliyon.2021.e08550.

Baloch,S., Baloch, M. A., Zheng, T., & Pei, X. (2020). The coronavirus disease 2019 (COVID-19) pandemic. The *Tohoku Journal of Experimental Medicane* 250(4), 271–8. http://dx.doi.org/10.1620/tjem.250.271.

Gatto, M., & Islam, A. H. M. S. (2021). Impacts of COVID-19 on rural livelihoods in Bangladesh: Evidence using panel data. *PloS one*, *16*(11), e0259264. https://doi.org/10.1371/journal. pone.0259264

Government of Pakistan (2017). 6th Housing & Population census 2017. Islamabad, Pakistan. https://www.pbs.gov.pk/content/final-results-census-2017

Government of Pakistan (2020). Special Survey for Evaluating Socio-Economic Impact of Covid-19 on Wellbeing of People. Ministry of Planning Development & Special Initiatives, Pakistan Bureau of Statistics, Islamabad, Pakistan.

Government of Pakistan (2022). Ministry of National Health Services, Regulation and Coordination, Islamabad. https://covid.gov.pk/stats/pakistan

Khalid, U., & Shahnaz, L. (2021). Assessment of labour market disruptions in Pakistan due to COVID-19. CBER Conference. https://ir.iba.edu.pk/esdcber/2021/day2/2

Laguipo, A.B.B. (2021, March 24). What are Coronaviruses? *News Medical Life*

ISSN Online: 3007-3154
ISSN Print: 3007-3146

Sciences.https://www.news-medical.net/health/What-are-Coronaviruses.aspx

Nazir., R. (2021, August 10). News Analysis: Pakistan's tourism industry makes headway amid COVID-19 challenges. Xinhua. Asia & Pacific. http://www.xinhuanet.com/english/asiapacific/202108/10/c_1310119374. htm

Paul, A., Nath, T. K., Mahanta, J., Sultana, N. N., Kayes, A. I., Noon, S. J., ... & Paul, S. (2021). Psychological and livelihood impacts of COVID-19 on Bangladeshi lower income people. *Asia Pacific Journal of Public Health*, *33*(1), 100-108. https://doi.org/10.1177/1010539520977304.

Pit, S., Fisk, M., Freihaut, W., Akintunde, F., Aloko, B., Berge, B. & Yap, J. C. (2021). COVID-19 and the ageing workforce: global perspectives on needs and solutions across 15 countries. *International Journal for Equity in Health*, *20*(1), 1-22. https://doi.org/10.1186/s12939-021-01552-w.

Quinby, L., Rutledge, M., & Wettstein, G. (2021). How has COVID-19 affected older workers' labor force participation?. *Brief IB*, 21-20.

Rasul, G., Nepal, A. K., Hussain, A., Maharjan, A., Joshi, S., Lama, A., & Sharma, E. (2021). Socio-economic implications of COVID-19 pandemic in South Asia: emerging risks and growing challenges. *Frontiers in sociology*, 23.https://doi.org/10.3389/fsoc.2021.629693.

Saqlain, M., Munir, M. M., Ahmed, A., Tahir, A. H., & Kamran, S. (2020). Is Pakistan prepared to tackle the coronavirus epidemic?. *Drugs & Therapy Perspectives*, *36*, 213-214. https://doi.org/10.1007/s40267-020-00721-1.

Shafi, M., Liu, J., & Ren, W. (2020). Impact of COVID-19 pandemic on micro, small, and medium-sized Enterprises operating in Pakistan. *Research in Globalization*, *2*, 100018. https://doi.org/10.1016/j.resglo.2020.100018

Spinelli, A., & Pellino, G. (2020). COVID-19 pandemic: perspectives on an unfolding crisis. *Journal of British Surgery*, *107*(7), 785-787. https://doi.org/10.1002/bjs.11627.

The Nation (2021, June 14). 80pc construction sector's workers lost jobs during Covid-19: survey. *The Nation*. https://www.nation.com.pk/14-Jun-2021/80pc-construction-sector-s-workers-lost-jobs-during-covid-19-survey

Thompson, J., Ndung'u, N., Albacete, M., Suleri, A. Q., Zahid, J., & Aftab, R. (2021). Impact of COVID-19 on livelihoods and food security. *Research for Policy and Practice Report*.

United Nations Development Programme (UNDP) (2020). COVID-19 - Pakistan Socio-economic Impact Assessment and Response. *United Nations Development Programme*.

Wang, C., He, X., Song, X., Chen, S., & Luo, D. (2022). Dynamic livelihood impacts of COVID-19 on different rural households in mountainous areas of China. *Plos one*, *17*(9). https://doi.org/10.1371/journal.pone.0273816.

World Health Organization (2020, October 13). Impact of COVID-19 on people's livelihoods, their health and our food systems. *World Health Organization*. https://www.who.int/news/item/13-10-2020-impact-of-covid-19-on-people's-livelihoods-their-health-and-our-food-systems

Worldometer (2022).Retrieved from https://www.worldometers.info/coronavirus/

Waris, A., Atta, U. K., Ali, M., Asmat, A., & Baset, A. J. N. M. (2020). COVID-19

ISSN Online: 3007-3154
ISSN Print: 3007-3146

outbreak: current scenario of Pakistan. *New microbes and new infections*, *35*, 100681. https://doi.org/10.1016/j.nmni.2020.100681.

Yamano, T., Sato, N., & Arif, B. W. (2020). COVID-19 impact on farm households in Punjab, Pakistan: Analysis of data from a cross-sectional survey. Asian Development Bank. http://dx.doi.org/10.22617/BRF200225-2

Zhu, H., Wei, L., & Niu, P. (2020). The novel coronavirus outbreak in Wuhan, China. *Global health research and policy*, *5*, 1-3.