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Research Article

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Assessment of socioeconomic and environmental impact of COVID-19 in Pakistan

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ABSTRACT

COVID-19 had a detrimental effect on Pakistan, with an estimated 34 percent reduction in employment and a 42 percent decrease in overall income. It was estimated that COVID-19 would cause an economic loss of almost 10% (1.1 trillion PKR) in Pakistan by the end of 2021. The enormous consequences of the epidemic on all aspects of life have transformed the ways of a typical lifestyle, and its upheaval is felt in economic, social, educational, and professional realms. Many countries, including Pakistan, were unable to cope with the devastating pandemic, and when the third wave of COVID-19 arrived, it was clear that a comprehensive backup strategy to combat the pandemic was urgently needed. To cope, the government must make difficult decisions since COVID-19 will not go away quickly. The level of poverty is predicted to climb by 33.7 percent. Many harmful effects have already been noticed in the economy's primary, secondary, and tertiary sectors, including education, health care, and health care. A well-managed and planned strategy plan including all sectors of society and directed by government officials is essential given the current economic upheaval, a weak healthcare system, and a lack of critical health literacy. The purpose of this study is to look at the micro- and macro implications of COVID-19 on Pakistan's socioeconomic and environmental factors. It also addresses the current situation as well as the potential consequences in the future.

Keywords: corona virus, economic crisis, Pakistan, socioeconomic impact of covid19

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INTRODUCTION

Global Impact

Due to COVID-19's outrage, the entire world suffered in all sectors of life. From February 2020, the crisis has gone global, with substantial cuts in revenue, tax collection, income levels, and production capacities of production units all over the world. A large impact was predicted on global GDP growth [1]. The catastrophe of COVID-19 might affect global GDP between 2.3 percent to 4.8 percent [2]. According to the report by UNCAD, a shrink of 5%– 15% was expected in the FDI (foreign direct investment) [4]. A support package covering up to USD 2.5 trillion is needed to cope with fatal damages of virus [3]. Almost 25 million individuals are at risk of losing their jobs around the world, resulting in a loss of up to USD 3.4 trillion in worker income. As a result, poverty will rise, with nearly 11 million people living on the brink

of starvation. In developing economies, the situation is far worse. Expect the situation to get a lot worse. According to the United Nations Development Program, income shortfalls in developing countries are likely to surpass 220 billion dollars. In a recent World Bank report, it was stated that South Asia's economy would have its worst year in 40 years, with nearly half of the countries falling into deep economic crisis [5,6,7].

Pakistan Situational Analysis

According to government statistics, the health ministry's report presented in fig. 1 showed that a total of 7,889,741 tests were performed, with 1,290,848 of them confirming the presence of virus in the recipient. 1,252,396 people were able to combat the illness and live, whereas 28,870 people died as a result. At the moment, 9,582 individuals are battling the infection [6].

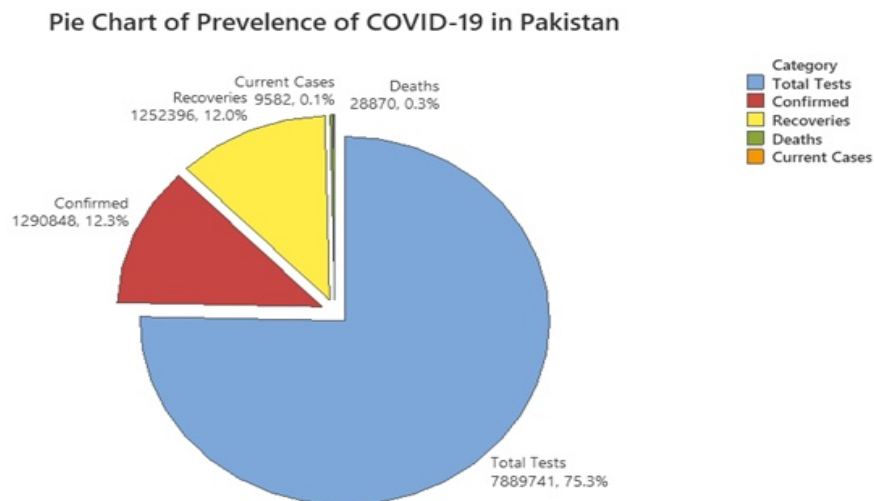


Fig. 1 Government of Pakistan statistics of outbreak of COVID-19 [6]

An insight into the provincial statistics in table 1 showed that Sindh has been hit the most by COVID-

19, with 478,942 confirmed cases, followed by Punjab with 444,119 confirmed cases. There were 180,938



cases reported in KPK, and 108,240 cases in the Islamabad Capital Territory. COVID-19 had a lower impact in AJK, Baluchistan, and Gilgit Baltistan than in other Pakistani provinces, with 34,633, 33,548, and 10,428 confirmed cases, respectively. A total of 465,864 cases recovered fully from COVID-19 in Sindh, while 428,014, 174,334, and 106,973 patients recovered from Punjab, KPK and Islamabad. 10,229 cases recovered from COVID-19 in Gilgit Baltistan, 33,143 recoveries in Baluchistan and 33,839 recoveries in Azad Jammu Kashmir. Currently there are 5,429 active cases in Sindh and 7,649 people have lost their lives to COVID-19 so far. Statistics from Punjab, KPK and Islamabad present 3,048 active cases and 13,057 deaths in Punjab, 697 active cases and 5,907 deaths in KPK, 304 active cases and 963 deaths in ICT. There are now 13 ongoing cases in Gilgit Baltistan, with 186 individuals killed so far, and 42 active cases in

Table 1 Prevalence of COVID-19 by Province [6]

Baluchistan, with 363 casualties. COVID-19 is currently being fought by 49 people, with 745 having met their marker [6,8].

Pakistan Strategy

COVID-19 had a detrimental effect on Pakistan. However, Pakistan's government has been actively engaged with different strategies in attempts to cope up with the devastating blows of COVID-19 after it was declared an outbreak by the World Health Organization (WHO). Without extensive testing and screening standards, the virus infiltrated the country's population via pilgrims and travelers [8,10]. The NPRP (National Preparedness and Response Plan) was produced by the Pakistani government which contained SOPs and guidelines for travelling and international flights [11]. COVID-19-designated hospitals and isolation facilities, early detection, risk communication, and contact tracing were offered from the national government to help decrease COVID-19 hazards [11,12]. Congregational prayers in religious buildings such as churches and mosques represent a considerable risk of disease transmission therefore, many Islamic regimes, including Qatar, Kuwait, and Saudi Arabia, have imposed a temporary

Province	Confirmed Cases	Active Cases	Deaths	Recoveries
AJK	34,633	49	745	33,839
Baluchistan	33,548	42	363	33,143
GB	10,428	13	186	10,229
Islamabad	108,240	304	963	106,973
KPK	180,938	697	5,907	174,334
Punjab	444,119	3,048	13,057	428,014
Sindh	478,942	5,429	7,649	465,864



ban on congregational prayers, and the Pakistani government followed the same strategy [9]. Hospitals are equipped with resources in an effort to combat the deadly virus, and several hospitals are designated for patients with confirmed or suspected COVID-19. Only one such hospital is operational in Islamabad; Baluchistan has ten such hospitals, and KPK has seven. Punjab, Sindh, AJK, and Gilgit Baltistan each have six, three, and four similar hospitals [8,10].

The rapid spread of COVID-19 was a grave concern and the government of Pakistan deployed possible strategies to mitigate the risks spread of the deadly virus. Western borders closed; international flight operation was temporarily suspended with effect from March 21, 2021. All educational institutions went into closure for three weeks with immediate effect, private and public gatherings including concerts, marriage halls, and conferences were banned which are the concrete acknowledgment of the government's commitment towards stopping the spread of COVID-19. The government of Sindh announced a relief package of 3 billion under the campaign named "COVID-19 Relief Fund" and the government of Pakistan launched a relief package under the name "Ehsaas Program" which provided for a stipend of Rs 12000 for poor and needy families [13,14].

Socioeconomic Analysis in Pakistan

The enormous consequences of the epidemic on all aspects of life have transformed the ways of a typical lifestyle, and its upheaval is felt in economic, social, educational, and professional realms. With an estimated 34 percent reduction in unemployment and a 42 percent decrease in overall income. It was estimated that COVID-19 would cause an economic loss of almost 10% (1.1 trillion PKR) in Pakistan by the end of 2021. Many countries, including Pakistan, devised anti-virus strategies and approaches, which

undoubtedly mitigated the devastating consequences of COVID-19. Despite strong preparedness against COVID-19, many areas were particularly hard impacted by the pandemic. These sectors are described in more detail below [14,15].

Corporate Downsizing

According to the Pakistan Bureau of Statistics, 35 percent of the population aged 10 and up had worked prior to the fatal virus's emergence. This accounts for as much as 55.74 billion people. After the onset of COVID-19 and lockdown situation, a decline of 22% was observed. Approximately, 35.04 million people lost their work. The province of Sindh stands the greatest turmoil of COVID-19 as the work rate of the population decreased from 38% to 23%, Punjab and Baluchistan experienced 14% and 11% points decline respectively. However, it lifts the heart to know that recovery has been started and as much as 33% of has reported working again, which means around 52.56 million people regained work, recovery graph shows a V shape (Table 2) [15].

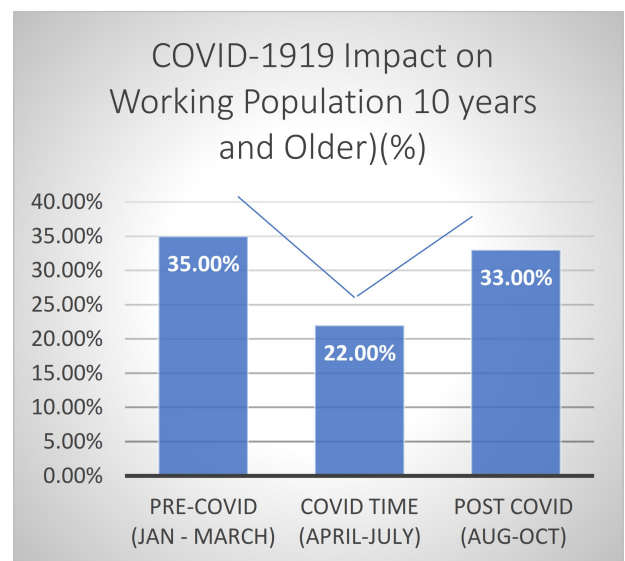


Table 2 COVID-19 Impact on Working Population 10 years and Older) (%) [15]



Furthermore, the table shows that Sindh's rural areas are still more affected by COVID-19. Before COVID-19, 40% of the rural population was employed, but that number decreased to just 28% during COVID-19, and it only rose to 31% post-COVID-19. Sindh's urban life was adversely affected by COVID-19, although it improved by 1% after COVID-19, overall figures showed that 38 percent of the population was employed before COVID-19 23 percent during COVID-19, and 33 percent after the virus, a 5 percent discrepancy. When it comes to urban life, the same

decreasing pattern is observed in Punjab too, during the COVID-19, the work percentage dropped down to 18% which was 34% before it, it rose back to 32% afterwards. However, the overall statistics of Punjab are better than that of Sindh, work percentage dropped to 22% during COVID-19 from 36% and got back to 34% after COVID-19 presenting a pre-post gap of 2%. Other provinces of Pakistan being less populated received less impact and it seems Baluchistan did finest against COVID-19 (Table 3) [15,16].

Province	Urban			Rural			Total		
	Before	During	After	Before	During	After	Before	During	After
Sindh	34	18	35	40	28	31	38	23	33
Punjab	34	18	32	37	25	36	36	22	34
KPK	30	17	29	29	22	28	29	21	28
Baluchistan	31	21	34	34	25	36	33	24	35

Table 3 Province wise Pre and Post COVID-19 employment figures [15]

After the COVID-19 both the urban and rural sectors acquired more jobs, and overall, 33% of the population was employed before the COVID-19 fell to 24% during the COVID-19 and then rebounded to 35%, surpassing the pre-COVID-19 rate by 2%. KPK had a 1% decrease in post-COVID-19 work percentage, which increased to 28% after COVID-19 [15,16].

Impact on Industry Sector

Figure 2 depicts how COVID-19 wreaked havoc on Pakistan's industrial sector. Labor and worker layoffs increased poverty in the country, with a 20% fall in construction, a 26% reduction in manufacturing, a 17% drop in storage and transportation, a 16% loss in retail and wholesale, an 11% dip in the service sector, and a 5% drop in agriculture, fishing, and farming [15,17].

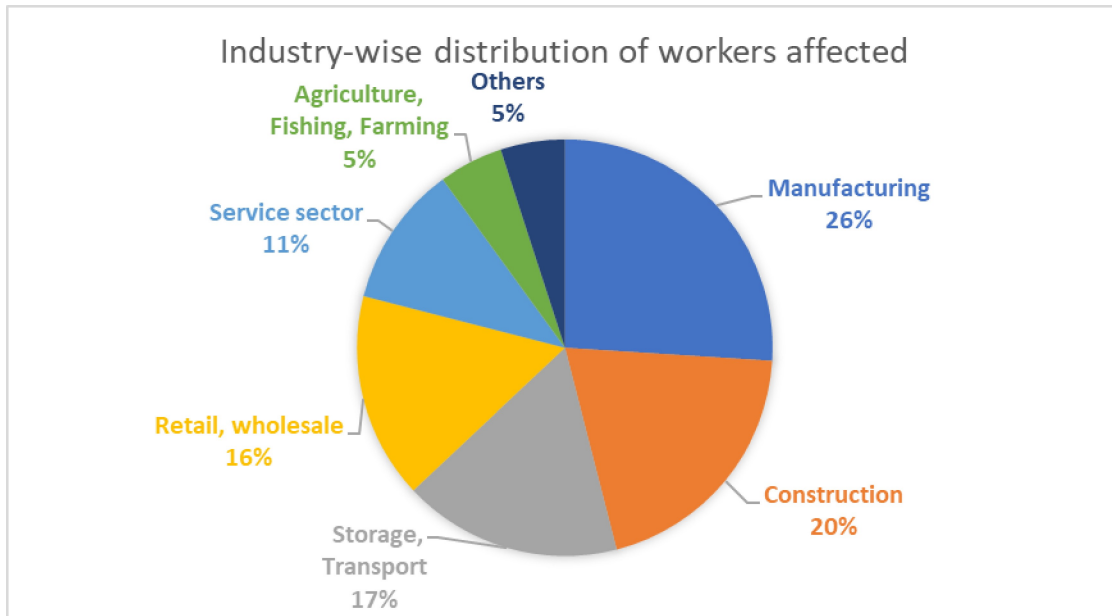


Fig. 2 Industry wise distribution of workers affected [15]

Food Insecurity and Agriculture

Despite the fact that Pakistan is the world's eighth largest wheat producer, fifth largest sugarcane grower, and fourth largest milk producer, the country continually faces food insecurity. Food security is a critical factor contributing to the severity of the issue, as the disaster that COVID-19 brought shook the world's economies [17]. Countries have tried to protect their people and agriculture from the devastating effects of the pandemic, and food insecurity is a crucial factor contributing to the severity of the issue. Malnutrition has an impact on young children and pregnant women. Only 15% of children in Pakistan have the means to eat the bare

minimum of food, according to the Pakistan Bureau of Statistics [15,16].

"Food security" is defined by the FAO as "Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life" [16]. A 10% increase in food insecurity has been experienced during the COVID-19 pandemic, in comparison with the HIES2018-2019 report that showed only a 3% rise. 30% of households showed reported moderate food insecurity which was reported 13% in HIES 2018-19 [16,17].

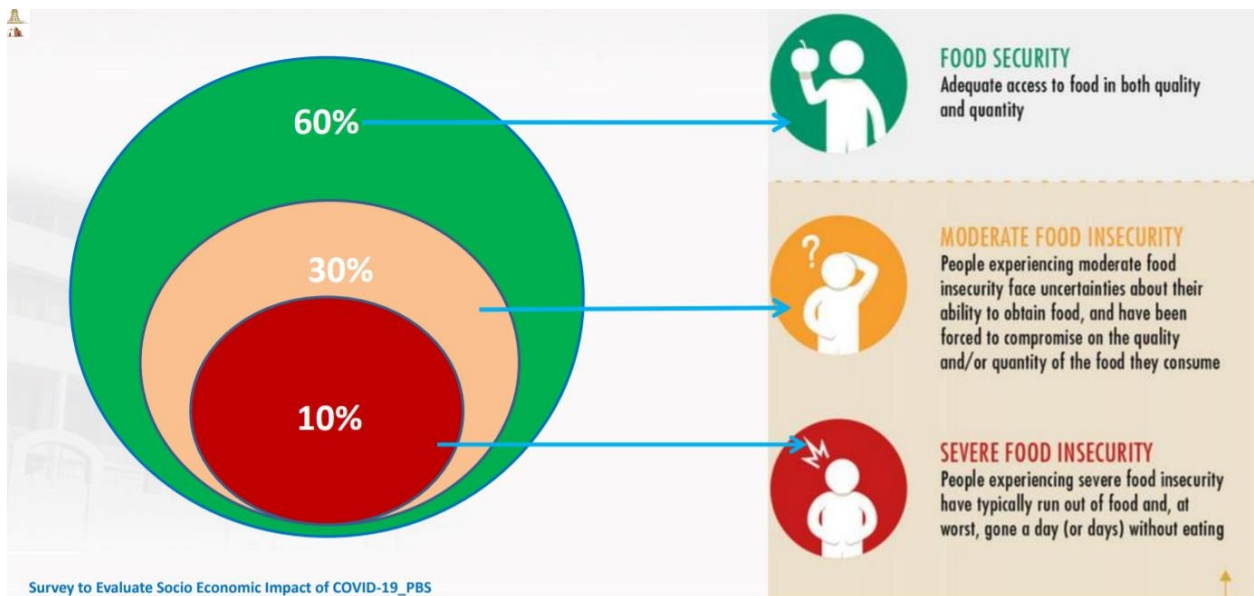


Fig. 3 Food security impact [15]

Meanwhile, 60% of households showed food secured results during the pandemic. The information about quantity, fears, and quality of food people had during the times of COVID-19 and responses show that 59% of people feared not having food, while 60% feared not having healthy and nutritious food to eat. 58% had to eat only a few kinds of meals, while 29% and 30% people had to skip a meal or eat less respectively. A portion as much as 22% ran completely out of food, 17% had less amount of food, so they felt hungry even after having a meal, and 12% had to spend days without food. Pakistan's GDP has always been backed

up by Pakistan's agriculture, still, around 30% of Pakistanis are considered food insecure because they lack access to an adequate food supply. The province of Sindh is the second-largest producer of agriculture in Pakistan, but 46% of the population lacks basic nutritional facilities and people of Sindh are under malnutrition issues [17]. Catastrophic effects of COVID-19 have put shackles to the production capacity by limiting labor and other resources [15,16,17,18]. Details of province wise food insecurity is presented in Table 4 below.

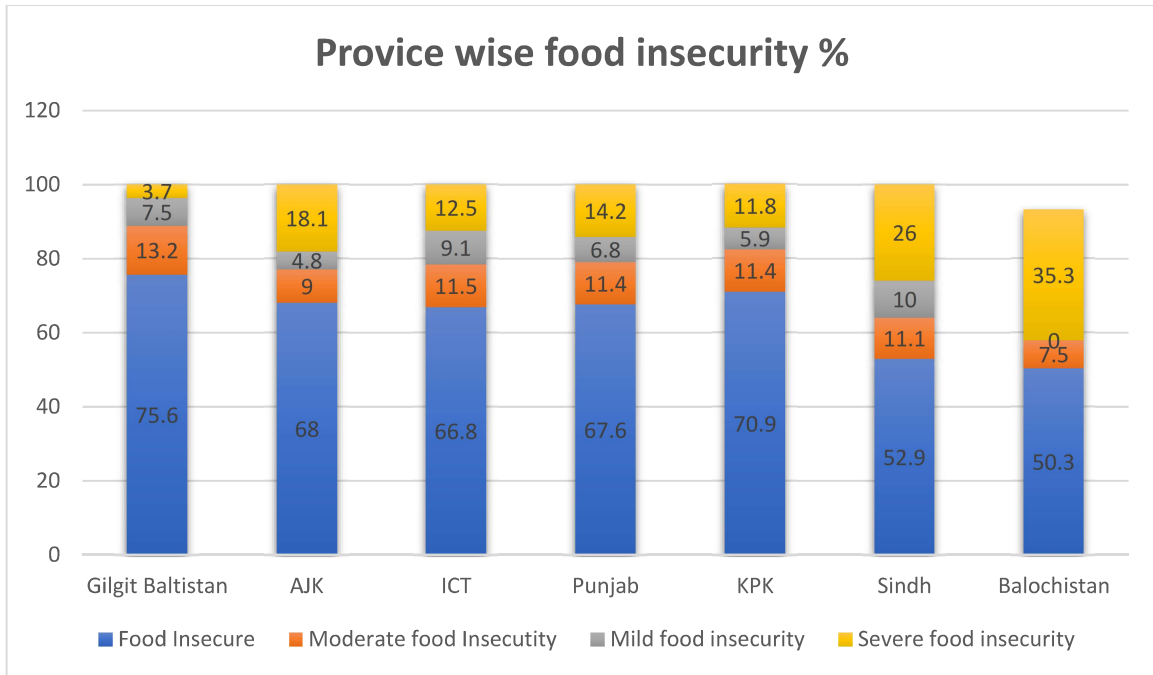
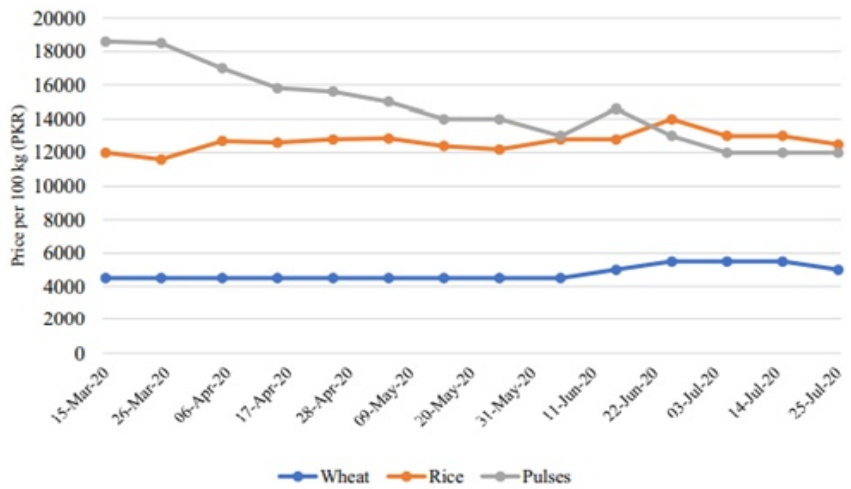


Table 4 Province wise food insecurity [17]

As much as 4% of the country's GDP comes from five major exports of agricultural products, which are rice, wheat, cotton, sugarcane, and maize [19]. Wheat and rice are the major nutritional source of population and the impacts of COVID-19 have badly affected their production levels which have contributed to significant fluctuations in their prices [19,20]. Poor communities rely on pulses to fulfill their protein needs for their budget constraints to afford red or

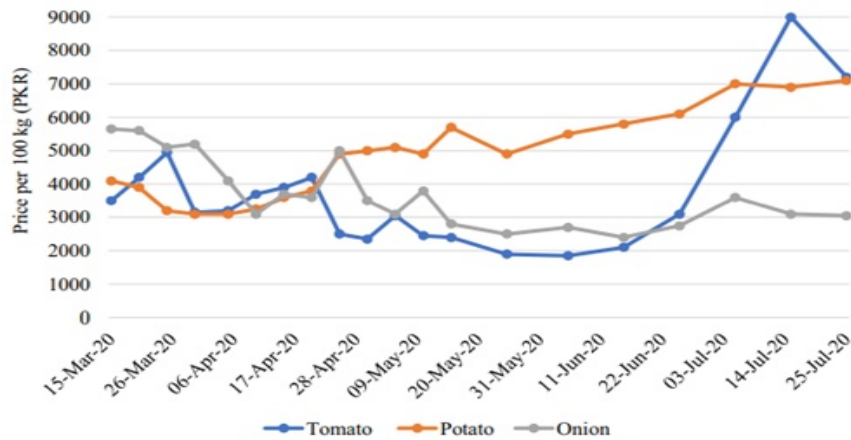
white meat. The variation in prices is given in the Graph 1. It is quite obvious that the price of wheat per 100 kg was observed to be uniform from March until mid-June, and an abrupt increase was observed later on. A 27% price decrease was seen in prices of pulses, price of rice initially experienced an increase by 6.6% followed by a declining trend till June, and an increase was analyzed in June-July again [15,19,20].



Graph 1 Wheat, rice, and pulses price trend [19]

Similarly, the tides have experienced significant fluctuations in prices of fruits and vegetables too (Graph 2). Their limited shelf life already poses a significant challenge and makes them high-risky products. The limited human recourses for harvesting of ripened fruits and vegetables, and lack of resources for transportation to retail markets have caused

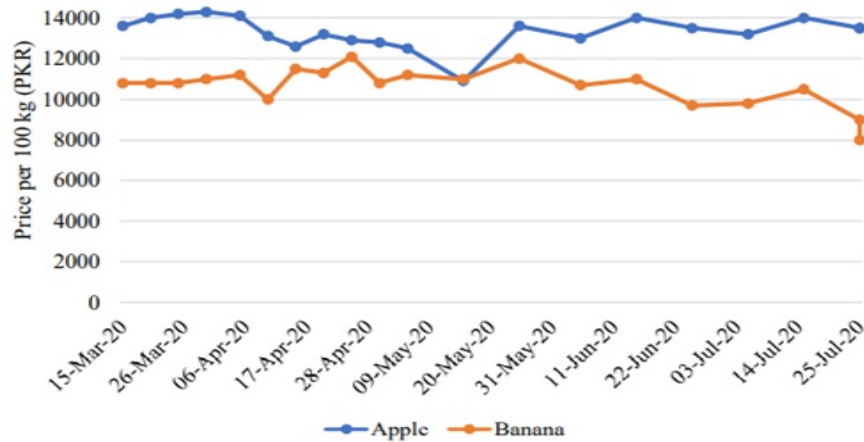
significant damage to agricultural sector. Pakistan makes an annual yield of 1.7 million from production of mangoes and is amongst largest producers of it. The impacts of deadly pandemic are experienced on the harvesting of mangoes too, which usually takes place from mid-May to mid-June in Punjab and Sindh. Temporary suspension of exports between countries also impacted their market [18,19,20].



Graph 2 Tomato, potato, and onion price trend [20]

From the initiation of lockdown to July 2020, the fluctuations in prices of apple and bananas, and vegetables including onions, potatoes and tomato is

shown in graph 3. These items exhibit a seasonal fluctuation in level of production between these months [20,21].



Graph 3 Apple and Banana price trend [20]

Education Sector

The lethal virus's insurgent attacks also caused damage on the academic sector. Approximately 2.2 billion students from all over the world had their formal education interrupted for a while. Because of the conflict between efforts to contain the virus and prevent its spread and attempts to continue formal education, on-campus activities have shifted to online and virtual learning settings [5, 22]. Pakistan's government demonstrated its dedication to virus prevention by providing immediate regulations for the closure of educational institutions for three weeks. Due to a large-scale change, the allocation of available resources and funding caused serious challenges and grave worries, and some local academic institutions ceased operations entirely due to a lack of funds and

resources. [22] Pakistan is a developing country, so access to contemporary and technological infrastructure has long been a concern. A weighted average of 22% of the population has access to internet services and devices. For students in rural areas, the situation worsens. Only 17% of the population has access to cellphones with internet capabilities, while 54% of the population has only basic functions [23,24].

The country has shifted back from online to partial opening of institutions, and now to completely on-campus learning. On-campus teaching is practices and preventive measures like social distancing, use of masks and sanitizers, and avoidance of hugs and handshakes are being advised. [23,24]



	Percentage of households that have asset					
	Across all groups	Poorest 20	20-40	40-60	60-80	Richest 20
Any remote learning technology	63%	15%	45%	74%	90%	98%
Television	62%	15%	45%	73%	88%	96%
Computer	15%	0%	3%	7%	15%	56%
Internet	12%	0%	0%	2%	9%	50%
Radio	8%	7%	10%	8%	6%	8%
Internet and Computer	8%	0%	0%	1%	4%	40%

Table 5 Ownership of household assets in Pakistan [25]

Tourism

The onset of COVID-19 has presented various challenges to multiple fronts across the globe, tourism being one. The hostile waves of the deadly virus have struck the tourism industry too, causing it to shut for months [26]. Many practices have been followed in efforts for the revival of tourism in many countries, most countries are still facing challenges to cope up with the menace of COVID-19. In a report published in 2020, the UNWTO stated that tourism is one of the most difficult industries to revive 20. [26,27] According to WTTC, 75 million jobs are currently in jeopardy around the world. The global economy could lose 2.1 trillion dollars as a result of this massive job loss. For the past eight years, worldwide tourism has contributed an average of 10.4% to global GDP. In recent years, this growth has slowed the global economy [27,30]. COVID-19's extraordinary health risks, economics, and social emergence are being felt all over the world, and it has had a negative impact on the tourism industry [28]. A significant drop in tourism as a result of the widespread restrictions in place around the world, including the complete closing of several internal borders in try to contain the virus. According to the UNWTO World Tourism Barometer, international tourist arrivals decreased by 72 percent from January to October 2020. During this time, a loss of USD 935 billion was recorded, resulting

in 900 million fewer international visitor arrivals. It's ten times more than it was in 2009, when the world was hit by a global economic downturn [27,28,30].

Given the current state of affairs, the UNWTO expects that international tourism will revert to levels seen 30 years ago. There was a rise of 1.5 billion USD (4 percent) in revenues by tourism over the previous year, in the first ten months of 2020 there was a decrease of 72 percent. The Pacific and Asia have suffered the biggest harm, with a decrease of 82 percent in 2019 compared to 2018, which saw a 4 percent increase. A similar impact was felt in the Middle East, which saw a fall of -73 percent from the previous year 2019, which saw an increase of 8% over 2018. COVID-19 had an impact on Africa, Europe, and the Americas as well, with international tourists dropping by 69 percent, 68 percent, and 68 percent, respectively [26,28,31]. Figure 5 represents the major factors that have influenced the decline of international tourism. It is believed that the travel restrictions and lack of coordinated response among different countries remain at top of the list of factors affecting the decline in the international tourist industry. International tourism was badly unset with the ravaging impacts of other factors too, namely the slow virus containment, the flight resumptions, and global economic crisis have also contributed accordingly [30,32].

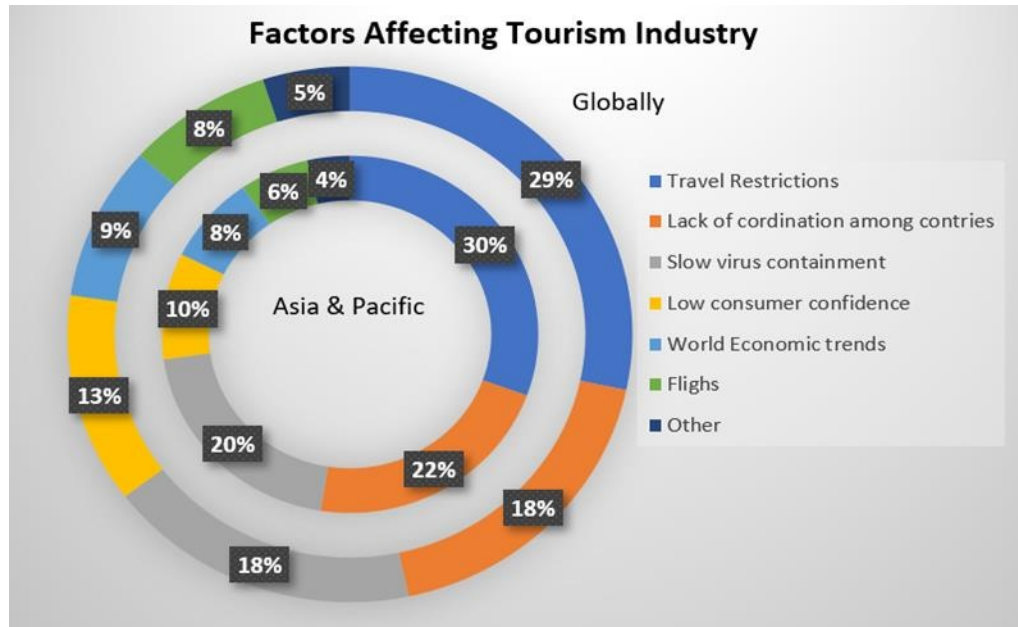


Fig 5 Factors affecting tourism industry [30]

Impact of COVID-19 on Pakistan's Tourism

Just like any other country in the world, Pakistan's tourism has accepted the catastrophe of impacts of COVID-19 too. A 100 million loss of business was reported by the hotel industry in just one month of February 2020. The bookings of resorts and hotels were also reduced to 40% from January to March 2020, which was reported to be 95%. Substantial losses were experienced in the coming months too. COVID-19 has imposed a 75% reduction in international travel in 2020 [32,33]. Flight operation was put to a halt, and around \$18 million of losses have been reported by Pakistan's Civil Aviation Authority (CAA) March 2020, and it was anticipated that PIA would send workforce on paid leaves [34,37].

Bloomberg, using the Z-score method developed by Edward Altman, published a list of airlines that were under the threat of bankruptcy. It was predicted that PIA could go bankrupt in the coming 2 years due to the sudden jerks given by COVID-19[36]. The graph below shows the number of international from the year 2000. It is quite obvious from the graph that a rapid decline in tourism has occurred since the onset of COVID-19. Further estimation of loss is predicted towards the end of 2020. With a new variant of COVID-19, named the Omicron, the associated risks of reinfections have increased, and further halts might be experienced in the coming weeks. The tourism industry of not only Pakistan but any country around the globe largely consists of small and medium enterprises and entrepreneurs who made their bread and butter via tourists on and off the seasons [27].

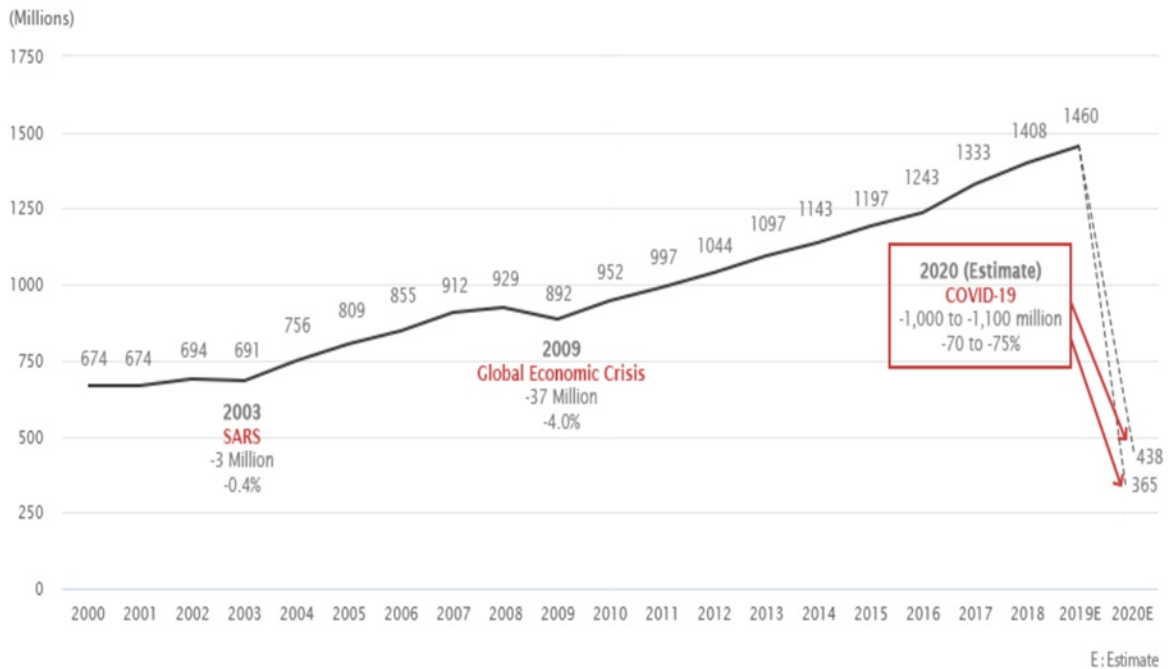


Figure 6: International Flight Arrivals [27]

The prevalence of COVID-19 has badly hit a large number of pastors, tour guides, tour operators, and salaried staff of small, medium, and large hotels that have suffered a steep decline in their incomes. KPK's tourism industry alone lost \$20 million in revenues which resulted in a clean slash of around 260,000 formal jobs. A 100% cancellation of booking is reported by Pakistan's association of bookings for the spring season. These cancellations account for a loss of 10 million USD. In SMEs', 1.5 million jobs are at immediate threat in the tourism industry. This much reduction will greatly impact the foreign exchange earnings which are earned from tourism. A substantial reduction in tax collection will give rise to a reduction of the government's earning [29,35,40].

Overall Impact on Service Sector

Coronavirus has affected every major and minor economy of the globe because of halts in global activities [37]. The services sector is also facing turbulence in its operations. Out of the total of four

channels delivery of services to customers, three require vicinity for operation and business among buyers and sellers. These are badly affected by COVID-19 social distancing practices [38,39].

Pakistan's services sector has given major inputs towards the GDP of Pakistan and is also a major source of employment [36]. Economic Survey of Pakistan reported in 2018-19 that the services sector of Pakistan has a share of 61.2% in Pakistan's GDP. The growth rate of Pakistan's sector was reported at 4.71% back in 2018-19. The revenues generated by the exports from the services sector back in the year 2019 were \$ 5781 million according to the State Bank of Pakistan. The service sector absorbed 38.6% of the entire labor force (Labor Force Survey, 2017-18). The table below is a translation of the Asian Development Bank's report that portrays an estimated loss of USD 5 billion in the worst-case scenario and USD 16.23 billion in the best-case scenario. These losses consist of subfactors that are related to the transportation facilities, hotels and restaurants, and corporate trade



of the service providers which are running their operations in Pakistan. In the worst-case scenario, corporate trade should face an estimated loss of USD 1.94 billion, and losses of 565.6 million and 253.7 million should be absorbed by the service renders of transportation, hotels, and restaurants. However, the

statistics undergo a significant decrease in the best-case scenario where corporate trades receive an estimated loss of USD 5.54 million. Only USD 0.92 million are to be absorbed by transportation services, and USD 0.67 million for the restaurants and hotel industry [1, 37]

	ESTIMATED LOSS	BEST-CASE SCENARIO
WORST-CASE SCENARIO	Corporate trade, public and personal services	USD 1.94 billion
	Transportation services	USD 565.6 million
	Restaurants and hotels	USD 253.7 million
	TOTAL	USD 5 billion
BEST-CASE SCENARIO	Corporate trade, public and personal services	USD 5.54 million
	Transportation services	USD 0.92 million
	Restaurants and hotels	USD 0.67 million
	TOTAL	USD 16.23 million

A study by the SDPI concludes that 0.36 million SMEs operating in the services sector of Pakistan experienced a decline by 50% in income. 0.76 million SMEs might not survive more than three months, whereas 0.24 million may not survive more than a month on cash flow basis. According to report of SMEDA (2020), overall, 89% of the SMEs are going through financial difficulties and 60% were having problems with selling services and products. [40,41]

The table below is a depiction of results from the report of PIDE. These numbers show Punjab has highest percentage (43.1) of vulnerable employments in the service sector of Pakistan and expected layoff would be 0.30 million. KPK is expected to face the high layoffs of 0.7 million workers out of 41.5%

vulnerable employments. The province of Baluchistan has 32.3% vulnerable employments, and .20 million expected layoffs will be experienced. Sindh stands the most affected province, with 1 million layoffs from total vulnerable employments of 32.8. Provincial governments from each of the provinces should be taking necessary measures in attempts to minimize these threats of layoffs. Unemployment does also have effects on the health and well-being of people^{35, 42}.

CONCLUSION

The onset of the contagious viral pandemic COVID-19 produced turbulence in every aspect of life around the globe. Its unprecedented effects have altered the ways of a normal lifestyle, and its disarranging impact is



experienced in economic, social, academic as well as professional realms. Pakistan is a developing economy, and a vast majority of the population is under the waves due to COVID-19. The virus has badly damaged the food and agricultural sector of the country. As with any other walk of life, academia has also accepted severe from the deadly waves of the virus. The tourism industry experienced a full decline in revenues. Restrictions on travel and other factors have devastated the small SMEs, 61.2% of Pakistan's GDP is backed up by the service sector, halts in global activities brought severe damages to the service sector too.

Pakistan's government statistics revealed that almost 34% of the working population had experienced a reduction in employment. These numbers are accounting for more than 5 million of the working population. The province of Sindh stands as the most affected province. The food and agriculture sector of Pakistan was also badly hit. 4% of the country's GDP comes from five major exports of agricultural products, and this percentage is damaged due to COVID-19. Temporary suspension of international trade brought unsettling impacts to the trade of mangoes, apples, and bananas. Unavailability of transport means and human resources for timely harvesting harvest of fruits and vegetables resulted in many price hikes.

The virus's devastation reached the frontiers of the tourism industry too. The bookings of resorts and hotels were also reduced to 40% (USD10 million), and international travel to Pakistan was reported to be declined by 75% in 2020. Loss of \$20 million in revenues in reported by a single province, which lead to the downsizing of around 260,000 formal jobs. A similar catastrophe is observed in the education sector too. The paradigm shift of online learning from on-campus might significantly affect the knowledge of students. Only 17% population has access to the internet and smartphones. Many educational institutes closed due to not having enough resources

and funds. This issue becomes of grave concern for students of rural and backward areas. 61.2% of Pakistan's GDP is backed up by the service sector. 0.36 million SMEs experienced income decline by 50%, .76 million failed survival for three months and .24 million failed survivals for one month. A significant increase by 10% might be the result of loss of employment in rural as well as urban areas of Pakistan, whereas the HIES2018-2019 report showed only a 3% rise. 30% of households showed reported moderate food insecurity which was reported 13% in HIES 2018-19. The revenues of Pakistan reduced to 1/3, exports reduced to half. Pakistan's GDP reduced from 1.145 to -0.935. International travel and tourism shrunk by 75%. A 34% reduction in employment and a 42% decrease in overall income are experienced.

Future recommendation

A well-coordinated global effort was the evident need to break off the prevalence of pandemics. COVID-19 is not the only pandemic in history. In less than a century, the human race has seen the Spanish flu, SARS, and MERS. There's a dire need for epidemiological and economic analysis of previous pandemics. The Study of the response of mankind and patterns showcased by the past epidemic events could aid in judging the evolution of the current pandemic. It could also potentially lead to factual inferences which might help contain the virus, and devise novel combinations of medicine. The economic analysis might give helpful information to predict the level of disturbances in demand and supply, employment rate, affect in GDPS, FDI, and other economic parameters. The other important need of unprecedented times is to implement comprehensive recovery policies combined with sustainability goals and inclusivity at national and international levels. South Asian region has faced worst effects of the deadly virus, these countries should share information and resources for the betterment of the society and policymaking. Policymakers of developing countries like Pakistan and those of South Asia should seriously understand



the importance of the philosophy “prevention is better than cure”. The results from epidemiological and economic analysis should be considered, and serious steps should be taken accordingly.

Abbreviations

ICT	Islamabad Capital Territory
AJK	Azad Jammu & Kashmir
KPK	Khyber Pakhtunkhwa

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