KEY POINTS

- More than 400 farmers were surveyed in Sindh, Pakistan, on the impact of the nationwide lockdown in response to the coronavirus disease (COVID-19) pandemic and the locust invasion.
- Due to the COVID-19 pandemic, more than half of the farm households reported lower food consumption and one-third of them reported lower earnings.
- The lockdown significantly disrupted food supply chains across all major agricultural products including wheat, vegetables, fruits, and milk with most respondents reporting being unable to market their produce. Tomato farmers faced substantial disruption, with 61% of respondents unable to complete their harvest at the usual time.
- Severe locust invasions were observed in Sindh, with 73.7% of respondents having seen locust swarms in their area.
- Government response is urgently needed to offset the negative effects of COVID-19 and the locust attacks.

Impact of COVID-19 and Locust Swarms on Farm Households in Sindh, Pakistan: Analysis of Data from a Cross-Sectional Survey

INTRODUCTION

The COVID-19 outbreak affected various channels of Pakistan's economy, slowing it down; consequently, the country's provisional growth of gross domestic product (GDP) for 2019–2020 is estimated at –0.4%, with agriculture the only sector showing positive growth, at 2.7% (Pakistan Bureau of Statistics [PBS] 2020). Furthermore, in Pakistan, locust swarms emerged first in Khyber Pakhtunkhwa and Balochistan provinces and then in Sindh and southern Punjab. The compounding impacts of the COVID-19 pandemic and locust swarms raise grave concerns about agricultural production and food security in Sindh Province.

While the long-term consequences of the COVID-19 pandemic and the locust swarms will become more apparent in the coming months, this brief presents their initial impacts on farm households in rural Sindh. Agriculture is central to Pakistan's economy, contributing over 19.0% of GDP (PBS 2020) and employing about 39% of the labor force (PBS 2018). Agriculture is the backbone of the rural populace, which constitutes 63% of the country's total population (PBS 2017) and supplies a large share of Pakistan's exports (Economic Adviser's Wing, Ministry of Finance 2020).

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This brief focuses on Sindh, the second-largest province in Pakistan in terms of population, accounting for one-fourth of the country's GDP (World Bank 2018). After Punjab, Sindh has the second largest total cropped area, at 3.6 million hectares (Ministry of National Food Security & Research 2019). Sindh Province contributes significantly to the country's overall production of major crops, providing 41% of rice, 31% of sugarcane, 21% of wheat, and 15% of cotton produced (Agriculture Department, Government of Sindh n.d.). Less than half (47%) of Sindh's population lives in rural areas (PBS 2017), which is considerably less than the share of the rural population in other provinces. However, two-thirds (65%) of the labor force in rural Sindh is engaged in agriculture, the highest among the provinces (PBS 2018).

In June 2020, a survey was conducted under Asian Development Bank (ADB) technical assistance, using computer-assisted telephone interviewing.¹ The survey attempted to contact 721 farmers across eight districts of Sindh Province and successfully completed interviews with 410 farmers. The survey collected information on how COVID-19-related measures and disruptions affected the harvest and marketing of *rabi* (winter) season crops and dairy products, the availability and price of inputs, and the financial needs of farmers.² The survey also sought to determine the impact of the locust invasion in the region.³

Over half of survey respondents (58.3%) reported lower food consumption in their households, over a third (37.3%) indicated that their households experienced losses in wages and nonfarm earnings because of COVID-19, and 39.5% reported that at least one family member had returned home from urban and other areas. Farm households are burdened by an increase in the number of household members and reduced cash income, which result in reduced nonfood expenditures, as reported by 45.4% of respondents.

COVID-19-related problems have severely affected farmers of all crops (including wheat, tomato, fruits, and vegetables) and dairy. Over 65% of wheat farmers and more than 67% of fruit

and vegetable farmers reported difficulties with selling their produce. Tomato farmers experienced an even more severe outcome—over 32% were unable to market their produce at all and a further 61.2% were able to do so, but with difficulty; in addition, 61% of respondents were unable to complete their tomato harvest. Milk producers were also affected, as traders were unable or unwilling to buy milk from milk producers. Among the respondents, 81% of milk producers reported that they were unable to market their produce daily in the past few months.

Farmers cited market closures and the unavailability of traders due to movement restrictions among their main difficulties. Furthermore, as many restaurants and markets had shut down, weddings and other festivals were canceled or celebrated more simply and in smaller gatherings. As a consequence, the demand for milk and tomatoes collapsed, resulting in low market prices.⁴

In addition, farmers faced acute problems during the *kharif* (summer) cultivation season because of the limited availability and increased prices of farm inputs, particularly seeds. Another major concern, especially for farmers in Upper Sindh, is the severe locust invasion. Measures to contain the invasion and prevent further crop losses are urgently required, as the Food and Agriculture Organization (FAO) of the United Nations has noted that locusts are still present in Balochistan near border areas of Sindh⁵ and predicts that adult groups and small swarms along the India–Pakistan border will mature, lay eggs, and thus cause a smaller but second wave of locust swarms in October (FAO 2020b).

To mitigate the severe impacts of COVID-19 and the locust swarms, the survey respondents identified the following essential actions, in order of priority: (i) ensure timely supply of agricultural inputs, (ii) ensure price stability for agricultural produce, (iii) ease loan repayment conditions or provide waive loans, and (iv) remove restrictions on marketing agricultural produce in districts beyond where it was grown.⁶

¹ Computer-assisted telephone interviewing is a technique for administering telephone surveys whereby the interviewer follows a script provided by a software application. It speeds up the collection and editing of microdata and helps the interviewer educate respondents on the importance of timely and accurate data collection. https://en.wikipedia.org/wiki/Computer-assisted_telephone_interviewing (accessed 11 September).

² A similar survey with more than 400 farmers from 10 districts of Punjab, Pakistan was conducted in May 2020. This survey revealed that as a result of the COVID-19 pandemic, about a third of farm households reported their earnings had decreased and 22% of the surveyed households had family members return from urban areas (ADB 2020). The lockdown disrupted food supply chains of high-value agricultural products (vegetables, fruits, and milk) and farm inputs but had relatively less impact on the wheat harvest and marketing in Punjab.

³ A more detailed analysis, differentiating the impacts of COVID-19 from those of locust swarms, will be provided in a future report.

⁴ The largest market for milk comprises entities such as marriage halls, hotels, restaurants, and sweets shops, but their demand for milk plummeted because of restricted movement of goods and businesses.

⁵ FAO. 2020. Locust Hub. <https://locust-hub-hqfao.hub.arcgis.com/> (accessed 8 September 2020).

⁶ Every year during wheat harvesting season, the government imposes a ban on the sale of wheat in districts other than where it is grown. The purpose of the ban is for the government to procure wheat and control the price and smuggling of wheat. In 2020, the ban was imposed on 19 March (Ministry of Information and Broadcasting, Press Information Department. 2020. PR No. 147. *There is sufficient supply of what in Market: Khusro Bakhyar Wheat Procurement Target Fixed at 8.25 million tons.* http://pid.gov.pk/site/press_detail/13352.19; and Dawn. 2020. *Ban on wheat movement to help achieve procurement targets.* <https://www.dawn.com/news/1542292>) and lifted on 10 June (Ministry of Finance. 2020. PR No. 328. *Adviser to PM on Finance and Revenue chaired a meeting of ECC.* http://www.finance.gov.pk/press_releases.html; and Ministry of Information and Broadcasting, Press Information Department. 2020. PR No. 79. http://pid.gov.pk/site/press_detail/13893).

COVID-19 AND RESTRICTIONS ON FOOD SUPPLY CHAINS

In Pakistan, the first confirmed case of COVID-19 was reported on 26 February 2020 in Sindh Province. By 18 March 2020, COVID-19 cases were registered in all four provinces; the two autonomous territories; and the federal capital, Islamabad. In response to the COVID-19 pandemic, the national government imposed a partial lockdown starting from 22 March 2020 in all provinces except Sindh, where the provincial government had imposed a complete lockdown at the beginning of the third week of March due to the large number of infected people. Although the restrictions were only partially applied to the agriculture sector and the food supply chain in an attempt to guarantee the availability of adequate food in the local markets, disruptions such as higher rental charges, labor shortage, and farmers' limited access to markets were nonetheless reported (FAO 2020a). Other reports also suggested anecdotal evidence of farmers facing severe difficulties with getting their produce to market during April and May (Jamal 2020, Action Against Hunger 2020). Farmers in Pakistan supply their produce primarily to wholesale markets (Siddiq and Basher 2019), but reports suggested that mobility restrictions prevented some from taking their crops to the market (Latif and Niazi 2020).

The COVID-19-related nationwide lockdown effectively halted most nonagricultural economic activities, with a potentially detrimental impact on food supply chains. Pakistan relies largely on interprovincial movement of food to balance supply and demand across the seasons and to take advantage of different agro-ecological zones (FAO 2020a). Wheat is a main commodity associated with food security through interprovincial trade. A similar phone survey in Punjab (ADB 2020), found that harvesting and marketing of perishables such as fruits, vegetables, and milk was negatively affected due to the lockdown, which can have implications for food security in Pakistan. Farm inputs were also affected, with 55.2% of respondents reporting an increase in the cost of their farm inputs because of COVID-19, an impact that could affect sowing in the next season and cause financial distress for farming families.

The sowing of *kharif* crops and harvesting of *rabi* crops began shortly after lockdown was declared. The *kharif* cultivation period starts earlier in Sindh and Balochistan (in April) than in Punjab and Khyber Pakhtunkhwa (in May). Farmers who were sowing crops faced greater difficulties, as their cultivation period occurred at the same time as the lockdown (third week of March–9 May). Thus, Sindh farmers who had earlier harvesting periods faced major challenges to harvesting and marketing their crops, compounded by labor shortage and transport problems (Khan 2020). These obstacles may aggravate issues of food security in the near term (United Nations Development Programme 2020).

LOCUST SWARMS AND FOOD SECURITY

The FAO noted “An upsurge [of locusts] developed in 2019 as a result of two cyclones that brought heavy rains to the Empty Quarter on the Arabian Peninsula in May and October 2018 that was exacerbated by Desert Locust outbreaks along the Red Sea coast during the winter of 2018 and 2019. The cyclones allowed at least three generations of unprecedented breeding in the Empty Quarter that was not detected. Swarms emigrated from these areas to spring breeding areas in the Central and Eastern regions from January to March 2019. Two generations of spring breeding occurred that spread to the Horn of Africa and to the Indo-Pakistan border in June. Three more generations occurred in the latter area as a result of the best monsoon rains in 25 years, leading to locust attacks in June 2020.”⁷ Locust swarms hit Khyber Pakhtunkhwa and Balochistan provinces in Pakistan first and then moved to Sindh and southern Punjab. The FAO estimated that, without effective measures, locust infestations would cause up to PRs688.5 billion (\$4.1 billion) in damage of *kharif* crops and PRs705.8 billion (\$4.2 billion) of *rabi* crops, assuming 25% damage to crops (Dowlatchahi, Ahmed, and Cressman 2020). An infestation of such magnitude has not occurred in the last 25 years, and the outdated government infrastructure for locust control is ill-equipped to fight the new locust attacks.

The locust swarms remain an ongoing threat. The FAO notes that locusts are still present in Balochistan near border areas of Sindh (footnote 5), and predicts that locusts will fledge and form adult groups and small swarms along the Indo-Pakistan border, which will mature, lay eggs, and cause a second (albeit smaller) wave of locusts in October (FAO 2020b).

The federal government declared a national locust emergency earlier in 2020, allowing multiple government agencies to collaborate in the effort. While the locust threat to agriculture is not larger than that posed by COVID-19, their simultaneous occurrence will have a compounding effect with grave results. Thus, the survey sought to determine the impact of the locust invasion, which has inevitably added to concerns about food security and whether the government had provided farmers with early warning about the swarms.

⁷ FAO. 2020. Desert Locust upsurge in 2019–2020. Desert Locust Watch. <http://www.fao.org/ag/locusts/en/info/2094/web18/index.html>. (accessed 8 September 2020).

Figure 1: Location of Surveyed Farm Households in Sindh, Pakistan

Source: Authors' calculations based on survey data.

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SAMPLED FARMERS

Sindh Province is divided into three zones based on climatic and soil conditions, resulting in suitability for different crops: Siro (the upper part), Wicholo (the middle part), and Lar (the lower part). In 2016, the International Rice Research Institute (IRRI) conducted a rice monitoring survey of 420 farmers from eight of Sindh's rice-producing districts: six in Upper Sindh and two in Lower Sindh. Of the 420 farmers that IRRI surveyed, phone numbers were available for only 326. The ADB survey included the same 326 phone numbers and collected the numbers of an additional 395 farmers from the initial respondents. In total, the ADB survey team attempted to contact 721 farmers and successfully completed computer-assisted telephone interviews with 410 farmers (Figure 1).⁸

SURVEY RESULTS AND DISCUSSION

This section summarizes the survey findings. Where helpful, comparisons are made between respondents from the Upper Sindh with those from the Lower Sindh. However, as the Upper Sindh sample size is more than twice that of Lower Sindh, any comparisons are only indicative.

COVID-19 Impact on Households

Respondents were asked about their household experiences in the context of the COVID-19 pandemic (Figure 2). Over half (58.3%) of farm households reported lower food consumption, almost half (45.4%) reported reduced nonfood expenditures, over a third (39.5%) reported that at least one family member had returned from urban and other areas, and 37.3% reported losses in wages and nonfarm earnings.

COVID-19 Impact on Crops

Crops grown during the 2019–2020 *rabi* season. Wheat, the predominant crop grown during the *rabi* season in Sindh, was produced by 93.7% of respondents. Oilseed was grown by 27.3% of respondents, followed by tomatoes at 25.6%. Sindh farmers also produced a substantial quantity of lucerne (20.0%) and berseem (19.3%), which are fodder crops for livestock.⁹ In addition, farmers grew onions (9.3% of respondents); melons (5.1%); sugarcane (3.9%); and bananas (1.2%). Some (2.2%) grew miscellaneous fruits, and a few (7.8%) planted other crops. Finally, 20.2% of producers grew a variety of vegetables.

Figure 2: Farm Households' Experience during COVID-19 (% of respondents)

Source: Authors' calculations based on survey data.

COVID-19 impact on the wheat harvest. All respondents except one (99.7%) reported having completed harvesting their wheat. The majority completed their harvest after the fourth week of March, although this was much more prevalent in Upper Sindh (81.7%) than in Lower Sindh (57.1%). In Lower Sindh, 39.0% of respondents had completed their wheat harvest by the fourth week of March, with the rest completing their harvest later.

A third of the respondents felt that their wheat harvest had been delayed compared with the past years; of these, 38.6% cited rain as the reason, 26.8% stated that harvesting machines were not available on time, and 18.9% noted a shortage of labor during harvest time. The share of respondents reporting unavailability of labor was higher in Lower than in Upper Sindh. Respondents who did not cite rain as a reason for delay were prompted to consider whether COVID-19 had an impact on the delay of their wheat harvest—84.3% of them said that COVID-19 had had an impact.¹⁰

⁸ Of the 721 target farmers, 228 farmers had their phones switched off or did not answer despite several (at least five) attempts to call on different days; the contact numbers of 59 farmers were incorrect or the person contacted was not a farmer and not the same person listed; and 24 farmers refused to participate in the survey.

⁹ Lucerne (alfalfa) is a grass (*Medicago sativa*) and berseem is a clover (*Trifolium alexandrinum*).

¹⁰ During interviews, farmers explained that combine harvesters used in Sindh largely come from Punjab and, due to lockdown, machines were not allowed to move from one province to another. Some farmers also noted that every season machines need repair before going into the fields and, due to lockdown, workshops were closed and that is why machines were delayed in reaching Sindh.

Of the respondents who had completed their harvest at the time of the survey, 65.3% reported that they were able to market their wheat but with difficulty, 20.1% marketed it without any difficulty, but 14.6% were unable to market their wheat. Of the nearly 80% who were unable to market their wheat or were able to do so but with difficulty, a third stated that they were unable to visit markets and cities, a quarter of respondents noted that traders were not available, and 15.4% kept the produce for self-consumption (Figure 3). Most respondents who were unable to sell or had difficulty selling their wheat stated they felt it was due to COVID-19.

When asked to identify their major wheat crop buyers, 95.4% of respondents said they sold their harvest in the open market, and only 4.6% cited the government as their primary buyer.¹¹ Respondents who sold in the open market reported an average price of PRs1,278 per 40 kilograms (*maund*) of wheat.

COVID-19 impact on the tomato harvest. Tomato is an important crop in Sindh. In 2015–2018, farmers grew tomatoes on an average of 27,600 hectares of land, the largest area among Pakistan's provinces, and produced an average of 204,400 tons annually

during the same period, making Sindh the largest producer. However, the yield of tomatoes per hectare in Sindh is the lowest among the provinces (Ministry of National Food Security & Research 2019).

Most respondents (61%) were unable to complete their tomato harvest, and 6.7% were unable to harvest at all. The proportion of respondents who had completed their harvest was higher in Upper Sindh (40.5%) than in Lower Sindh (27.0%). Most respondents (65.3%) who had completed the harvest said they had done so after the fourth week of March, with a further 22.4% noting they had finished harvesting by the fourth week of March.

Most respondents who had not completed their harvest or were unable to harvest at all stated that they instead plowed their produce under as green manure. The majority of farmers (76.5%) who did so cited their reason as the low price due to decreased demand, while the rest said they had difficulty accessing the market. 33.3% from Upper Sindh and 18.2% from Lower Sindh reported difficulty accessing the market. Farmers who had plowed their produce under stated COVID-19 as the reason for their decision.

Figure 3: Reasons for Not Selling or Being Unable to Sell Produce
(% of total respondents)

Source: Authors' calculations based on survey data.

¹¹ The government's food department provided price support by buying wheat from farmers at PRs1,400 per 40 kilograms, which is higher than the prices offered by the local traders. However, farmers reported that the government did not provide bags, and therefore they had to sell their wheat in the open market. Similarly, although the government exempted agriculture businesses from lockdown restrictions, disruptions were still reported in some places.

Of the 98 respondents who were able to harvest their tomatoes, only 6.1% were able to market their produce without difficulty. Most respondents were able to market but with difficulty (61.2%) and the remaining 32.7% were unable to market at all. Those who were not able to market their produce or faced difficulties marketing it stated the following reasons: their inability to visit markets and cities (48.9%), unavailability of traders (31.5%), and low market prices (17.4%). Almost all respondents (97.8%) cited COVID-19 as a reason for not being able to sell their produce or selling with difficulty.

COVID-19 impact on vegetable and fruit harvests. A total of 128 respondents had grown vegetables or fruit other than tomato in the previous *rabi* season. Of those, 81.3% stated they had completed their entire harvest for the season, while a further 17.2% reported having completed at least one harvest.¹² A third of these farmers (32.5%) felt their harvest had been delayed compared with the past years; of these, 41.5% cited the unavailability of labor as the primary reason for the delay and a further 14.6% noted that they were waiting for a better market price. When asked if COVID-19 had contributed to the delay, all responded affirmatively. Most farmers (67.5%) were able to market their produce but with difficulty; only 21.4% were able to market without difficulty. Farmers from both Upper and Lower Sindh cited their inability to visit markets and cities as the primary obstacle (58.6% and 41.4%, respectively), followed by the unavailability of traders (24.3% and 37.9%, respectively). Almost all respondents (97.9%) stated COVID-19 as a main reason for their difficulties with marketing.

COVID-19 Impact on Dairy Marketing

Most respondents raised livestock—33.4% both owned livestock and sold the milk, while 47.1% reported raising livestock for milk only for self-consumption. Among the 137 respondents raising livestock for milk and selling it in the market, 81.0% reported difficulty marketing their milk daily in the past few months, and a further 11.7% were unable to market their milk at all. A higher proportion of farmers in Lower Sindh (18.2%) than in Upper Sindh (8.6%) were unable to market their milk. The unavailability

of traders was cited more frequently by farmers in Lower Sindh (43.9%) than in Upper Sindh (27.9%), who in turn reported more frequently being unable to visit markets and cities (66.3%) than did respondents from Lower Sindh (53.7%).

When asked whether the COVID-19 pandemic was a contributing factor, 99.2% of respondents who were unable to market their milk answered affirmatively. Furthermore, 89.1% of respondents who were able to market their milk attributed the lower price of milk to the COVID-19 pandemic.

COVID-19 Impact on Farm Inputs

All respondents to the phone survey were asked a series of questions about the impact of COVID-19 on their farm inputs and the availability of labor and machines for the next sowing. They were also asked to assess their personal financial capacity after the onset of the pandemic and its subsequent economic impact.

Most respondents (78.9%) reported facing COVID-19-related disruptions when purchasing or receiving farm inputs for the next cycle of sowing; only 19.9% said they encountered no disruption. The shares of respondents noting disruptions to the purchase and/or delivery of farm inputs caused by COVID-19 are as follows: seed (97.2%), fertilizer (43.6%), pesticides (36.1%), diesel fuel (22.1%), and machinery (14.3%). Respondents in Lower Sindh, faced considerably more disruptions than those in Upper Sindh to the inputs of fertilizer, pesticides, diesel fuel, and machinery.

Overall, 87.5% of respondents reported an increase in the cost of their farm inputs because of COVID-19. Almost all respondents (98.6%) said that the cost of seed had increased, 42.7% noted an increase in fertilizer cost, and 41.3% noted a rise in the cost of pesticides. Some respondents also reported an increased cost of diesel fuel (18%) and machinery (9.8%). Regarding the availability of machines and their parts, 49.6% stated that they had trouble obtaining them.¹³ In terms of labor, most respondents (71.5%) stated they had no problem finding workers for the next crop cycle, while 20.1% did face problems.

¹² Only two respondents stated they would not be able to harvest largely or completely because of damage to the crops due to rain and locusts. Much of the harvesting was completed after the fourth week of March (56.7%), with about a quarter of respondents (26.9%) having completed their harvest by the fourth week of March. Most of those who had yet to complete their harvests or who had yet to start harvesting said that they would be able to do so by the fourth week of June (68.2%) with the remaining 31.8% stating that they would be able to complete it after the fourth week of June.

¹³ Field researchers conducting the survey commented that combine harvesters are not commonly available in Sindh. Some farmers rent them from the nearby districts of Punjab; however, due to the lockdown, they were unable to obtain them this season.

About 75% of respondents reported having financial difficulties in recent months (Figure 4). When asked whether this was because of the COVID-19 pandemic, 85.5% of them agreed that it was. Furthermore, most respondents (97.3%) who faced financial difficulties pointed to the purchase of inputs as their primary concern, while a minority cited liabilities and loans from nonbank lenders (25%) and banks (12.3%).

Impact of Locust Swarms

Respondents were asked about locust swarms in their areas. Almost three-quarters of all respondents (73.7%) reported having observed locust invasions. More locusts were observed in Upper than in Lower Sindh (Figure 5). More than 70% of those who observed locusts had experienced partial or complete damage in their fields. Regarding early warning and other sources of information about the locust swarms hitting the region, a little over half of Upper Sindh respondents (51.8%) reported having received early warning about the locusts from the government or an alternative source. However, in Lower Sindh, only 23% of respondents said they received any such warning.

Respondents who were aware of the locust swarms most frequently cited their sources of information as news channels (88.1%), followed by local community sources (55.7%). Only

six respondents from Upper Sindh reported having received information from the Provincial Agriculture Extension Department, while three respondents from Upper Sindh and two from Lower Sindh reported having received information from their district or local town administration. No respondent cited the Provincial Disaster Management Authority as a source of locust swarm information.

Almost all respondents (95.9%) stated that their area had not been surveyed to assess the locust presence. Similarly, 90.7% stated that their area had not been sprayed. Across both Upper and Lower Sindh, 21 respondents (7%) stated they had sprayed their area themselves, and 5 stated that their area had been sprayed by government teams. Handheld sprayers were the most used method (71.4%), followed by vehicle-mounted sprayers (21.4%).¹⁴ Over 91% of respondents stated that their area had been attacked by locusts at least once before spraying. Even after spraying, 75.0% of respondents reported that locusts still attacked their area at least once, although the frequency of the attacks had been significantly reduced (with 73.8% reporting at least two or more attacks before spraying, compared with 35.7% after spraying). Most respondents (49.3%) stated that their fields had been partly damaged by locusts, and 22.8% reported that their fields were largely or completely destroyed.

Figure 4: Farmers' Financial Concerns: Immediacy and Primary Sources

a: Experienced Immediate Financial Need
(% of respondents)

b: Source of Need Due to COVID-19 Effects
(% of respondents with financial need)

Source: Authors' calculations based on survey data.

¹⁴ Over 90% of farmers who sprayed their areas themselves used handheld sprayers; where the government did the spraying, 80% of farmers reported that vehicle-mounted sprayers were used.

Figure 5: Respondents Who Noticed Locust Swarms (%)

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Source: Authors' calculations based on survey data.

Preferred Policy Measures

Respondents were asked to suggest and rank in order of preference the following series of policy measures, which they felt government should take:

- ensure timely supply of agricultural inputs,
- ensure price stability for agricultural produce,
- ease loan repayment conditions or waive loans,
- remove restrictions on marketing in districts beyond where the produce was raised, and
- other policy measures.

Among respondents, the largest number (97.1%) cited the need to ensure timely supply of agricultural inputs, followed by the need to ensure price stability for agricultural produce (96.8%), and then the need to either ease loan repayment conditions or write off loans (80.7%). About 68.8% of respondents identified equally the needs to remove restrictions on the supply of agricultural inputs and to allow the marketing of agricultural produce in districts other than the farmers' home district. About half of respondents (50.7%) suggested other policy measures.

Figure 6 illustrates a priority index for identifying the policy measures the farmers preferred for government to take. The index is based on the proportion of total respondents who identified a policy measure for government action and the priority they assigned to the suggested policy measure. Figure 6 shows that the respondents prefer two policy measures—ensuring timely supply of agricultural inputs and ensuring price stability for agricultural produce—over other policy measures.

CONCLUSION

The survey of farmers in Sindh revealed that COVID-19 and locust swarms had a significant impact on the livelihoods they obtained through agricultural products, including wheat, vegetables, fruits, and dairy products. Tomato farmers faced especially acute difficulties, with the majority choosing not to harvest their crop. The challenges most often cited were the farmers' inability to travel to markets and cities and the unavailability of traders to purchase the crops.

Most respondents faced challenges related to farming activities. Respondents from Lower Sindh were more prone to disruptions in their procurement of fertilizer, pesticides, diesel fuel, and machinery. The increased prices of farm inputs, especially seeds, was commonly cited. Three-quarters of respondents reported increased financial difficulties because of these challenges.

Almost all respondents from Upper Sindh reported locust swarms, with over a third of Lower Sindh respondents stating they had also been affected. Upper and Lower Sindh respondents reported an almost universal lack of government response as a source of information about the swarms or relief in the form of surveys and spraying.

The market disruptions caused by the COVID-19 pandemic and its related policy measures are temporary. The government needs to monitor and ensure the functioning of market activities and the availability of agricultural inputs, as requested by farmers (Figure 6). The locust swarms may require action to both mitigate the damage already caused and to invest in long-term means to help farmers and communities prepare for future locust swarms.

Figure 6: Farmers' Policy Prioritization

Source: Authors' calculations based on survey data.

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