

COVID-19 Lockdown Impact on Harvesting and Marketing of Rabi Crops in Punjab

Sukhdeep Kaur Mann, Ritu Mittal Gupta and Mandeep Sharma

Dept. of Extension Education & Communication Management,
Punjab Agricultural University, Ludhiana

Abstract

COVID-19 was declared as a pandemic by the World Health Organization (WHO) in January 2020. On March 22, 2020, the Punjab government imposed a state curfew, which was eventually turned into a state-wide lockdown, effectively closing down almost all economic operations in the state. In this context, state agriculture was projected to face unprecedented problems, during the upcoming Rabi harvesting season. Looking into it, a survey was conducted to identify the problems faced by the farmers in harvesting and marketing of Rabi crops and to assess management strategies adopted by farmers to cope up with those problems. A questionnaire using Google form in Punjabi was circulated among farmers in state of Punjab. Data had been received from 500 farmers. The results revealed that majority of farmers faced acute problem of labour shortage. However, large number of farmers managed this problem by seeking help of their family members and pooling resources at village level. The study showed that though the farmers faced challenges due to lockdown but at the same time they were satisfied for timely procurement of Rabi crop.

Key words: COVID -19, harvesting, marketing, rabi crops

JEL Classification: I10, Q1, Q13, Q1

Introduction

The World Health Organization (WHO) proclaimed COVID-19 a pandemic in January 2020; the virus had already expanded to over 190 countries. A nationwide lockdown was imposed as a result of the unanticipated increase of infections, which had economic and social ramifications for the country. Many businesses, including agriculture and allied industries, were affected. Agriculture continues to be an important part of the Indian economy, employing 44 percent of the workforce and providing a primary source of income for more than 58 percent of the population (Anonymous, 2021). Punjab being predominantly agrarian state, big strata of the population depends upon the agricultural sector for earning their livelihood. Spread of COVID-19 virus, therefore affected the agrarian activities of the state also.

The Punjab government declared a state curfew on March 22, 2020, which was later upgraded to a state-wide lockdown, effectively shutting down practically all economic operations in the state, with the exception of essential services. State agriculture was expected to suffer unprecedented issues in this setting, with probable ramifications for marketing and output during the forthcoming *Rabi* harvesting season in

April, followed by the *Kharif* planting season in mid-June. As Punjab is one of the most significant wheat-growing regions, and the national procurement agency (Food Corporation of India) buys practically all of the marketed surplus, limitations on the mobility of people and goods carriers were anticipated to impede the smooth harvesting and selling of product. The fact that the vast majority of farmers rely on this network of sales had raised concerns about the potential negative impact of COVID -19 lockdown on farmers' income. The pandemic lockdown was expected to result in a labour shortage, machinery shortages, and farm input shortages, as well as a wage spike for the little labour available. Keeping all these in mind, the present study was planned with the following major objectives, (i) To identify the problems faced by farmers in harvesting and marketing of *Rabi* crops during lockdown due to COVID-19. (ii) To assess management strategies adopted by the farmers to tackle those problems.

Data Sources and Methodology

A state wide online survey was conducted for the study. The data was collected using questionnaire technique developed using Google form in Punjabi and was circulated among farmers all over Punjab state through social media whatsapp. Responses were received from 500 farmers

covering all the 22 districts of Punjab State. After receiving the responses farmers were categorized into five categories on the basis of their landholdings. The data were analyzed using frequencies and percentages.

Results and Discussion

Results of the study are discussed under the following headings:

Distribution of Farmers on the Basis of Land Holdings

Data in Table 1 revealed that 36 percent of the respondents had small land holdings, whereas about 35 percent had semi medium land holdings. Nearly 16 percent fell in the category of medium land holdings and only 3.6 percent of the farmers had large land holdings i.e. more than 10 hectares of land. The data further revealed that 10 percent of the farmers had less than one hectare of land.

Table 1. Distribution of the farmers on the basis of land holding

| Category | Frequency | Percentage (%) |
|---------------------------|-----------|----------------|
| Marginal (less than 1 ha) | 50 | 10.00 |
| Small (1-2 ha) | 180 | 36.00 |
| Semi medium (2-4 ha) | 174 | 34.80 |
| Medium (4-10) | 78 | 15.60 |
| Large (10 ha and above) | 18 | 3.60 |

Problems Faced by the Farmers During Harvesting

A perusal of data presented in Table 2 revealed that about 80.4 per cent of the respondents faced problem of scarcity of labour during COVID -19 lockdown. Similar result was seen in different studies conducted by (Adhikari *et. al*, 2021; Bisht *et.al*, 2020; Bochtis *et.al*, 2020 and Cortignani *et. al*, 2020) who reported that quarantine measures reduced labour

availability for different important farming activities like sowing vegetable crops, picking fruits etc. Approximately 77 per cent of the total farmers reported that high wages were demanded by the local labours during lockdown. Further 58.4 percent of the total farmers reported difficulty in repair of machinery as one of the major problem during lockdown. However, large percentage of the respondents with semi medium (75.86%) and medium land holdings (79.49) faced difficulty in repairing of farm machinery.

As far as farm machinery was concerned shortage of combine harvesters was reported as the major problem by 40 percent of the total farmers while similar percent (39.2%) of the farmers said that high charges were demanded by the combine harvesters during lockdown (Table 2). The results of the study were in congruence with the study conducted in Rajasthan, Maharashtra and Bihar by (NABARD, 2020) where wage rate of the labour had reportedly increased by 41 per cent during lockdown. The study further revealed the shortage in availability of agricultural machinery due to reduced availability of manpower. It further stated that states of Rajasthan (19.1%), Gujarat (15%), Maharashtra (14.2%) and Bihar (13.2%) reported the steepest increase in rent on agricultural machinery.

Problems Faced by the Farmers in Marketing

The data in the table 3 represents the problems faced by the farmers in marketing of *Rabi* crops during lockdown. Majority of the total farmers (66.40%) said that vegetables and fruits were sold at lesser rate which reduced their income. Singh *et.al*, 2020 in their study also discussed similar problem related to marketing of horticultural crops where due to the restricted opening of shops, the selling of fruits and vegetables were adversely effected. Lack of infrastructure and basic facilities in *Mandis* and Delayed procurement were also reported as the major problems by the farmers during lockdown with similar percentages of 58.80 and

Table 2. Problems faced by the farmers in harvesting of *rabi* crops during lockdown

| Problems | Marginal farmers | Small farmers | Semi medium farmers | Medium farmers | Large farmers | Total |
|--------------------------------------|------------------|---------------|---------------------|----------------|---------------|------------|
| Scarcity of Labour | 8(16) | 143(79.44) | 161(92.53) | 75(96.15) | 15(83.33) | 402(80.4) |
| Demand of High wages by local labour | 8 (16) | 136 (75.55) | 158(90.80) | 71(91.05) | 10(55.56) | 383(76.6) |
| Shortage of combine harvesters | - | 62(34.44) | 80(45.98) | 55(70.51) | 3(16.66) | 200 (40) |
| High charges by combine harvesters | - | 61(33.89) | 76 (43.68) | 51(65.38) | 2(11.11) | 196 (39.2) |
| Difficulty in repair of machinery | 6 (12) | 82(45.55) | 132 (75.86) | 62(79.49) | 10(55.56) | 292 (58.4) |
| Delay in harvesting | - | - | 35(20.11) | 36(46.15) | 5(27.27) | 76(15.20) |

Note: Figures in parentheses indicate percentage to their respective total

Table 3. Problems faced by the farmers in marketing of Rabi crops during lockdown

| Problems | Marginal farmers | Small farmers | Semi medium farmers | Medium farmers | Large farmers | Total |
|---|------------------|---------------|---------------------|----------------|---------------|-------------|
| Transportation issue | 10(20) | 36(20) | 43(24.71) | 14(17.9) | 1 (5.55) | 104(20.80) |
| Government's coupon system | 6(12) | 14(7.78) | 41(23.56) | 16(20.51) | 2(11.11) | 79(15.8) |
| Shortage of gunny bags | 8(16) | 48(26.66) | 41(23.56) | 18(23.08) | 3(16.66) | 118(23.6) |
| Delayed procurement | 28(56) | 98(54.44) | 96 (55.17) | 43(55.13) | 11(55.56) | 276 (55.20) |
| Lack of infrastructure and basic facilities in Mandis | 31(62) | 104(57.78) | 107(61.49) | 47(60.24) | 5(27.78) | 294(58.80) |
| Delay in payment | 11(22) | 40(22.22) | 45(25.86) | 16(20.5) | 3(16.66) | 115(23) |
| Vegetables and fruits sold at lesser rate. | - | 123(68.33) | 128 (73.56) | 68(87.18) | 13(72.22) | 332(66.40) |

Note: Figures in parentheses indicate percentage to their respective total

55.20. To avoid crowding and ensure smooth procurement Sate Government chalked out a strategy by issuing coupons fixed with holograms to the farmers through *Artiyas*. With each coupon farmer was entitled to bring one trolley per day of about 50 quintals of wheat. So, this restriction of one trolley per day for sale of wheat in *Mandis* was reported as a challenge by 15.8 percent of the farmers. However, later on Government removed coupon limit to procure wheat.

Further, problems of shortage of gunny bags and delay in payment were faced by similar number (23.6% and 23% respectively) of the total farmers. Transportation issue was reported by 20.80 percent of the farmers. These results were in congruence with the study done by (Vatta *et.al*, 2020) who discussed about various problems related to marketing during lockdown in Punjab and revealed that majority of the farmers faced problems like delay in procurement (30.00%) transportation problems (18.6%), and delay in payment (12.9%) (Table 3).

Management Strategies Adopted by the Farmers

Different strategies adopted by the farmers to resolve

their problems during lockdown were presented in Table 4. Majority of the farmers 29.2 percent pooled resources with villagers followed by 23.8 percent of the farmers who sought the help of family members to curb labour shortage. Singh *et.at*. (2020) also revealed that farmers developed the alternative marketing channels such as door to door supply of essential commodities viz. fruits and vegetables. Seventeen percent of the farmers incurred high wages to labour /machine owner. A lesser number of the farmers (9.8%) implemented mechanization to reduce labour input, this may be attributed to different reasons such as higher cost, small farm size, lack of knowledge, lack of provision of custom hiring at village level etc., while a few (2.2%) stored crop at home or at field.

In case of marginal, semi-medium and medium land holding farmers majority (32%, 30% and 31% respectively) of them pooled resources with villagers to tackle their farm problems while small land holding farmers sought the help of family members to curb labour shortage during lockdown. Similar strategies were revealed in the study conducted by (Vatta *et.al*, 2020) where farmers resorted to independent measures with almost 28% of the farmers hired local labour

Table 4. Management strategies adopted by the farmers to tackle problems

| Problems | Marginal farmers | Small farmers | Semi medium farmers | Medium farmers | Large farmers | Total |
|---|------------------|---------------|---------------------|----------------|---------------|-----------|
| Sought help of family members to curb labour shortage | - | 58(32.22) | 41(23.56) | 16(20.51) | 4 (22.22) | 119(23.8) |
| Implemented mechanization to reduce labour input | 4(8) | 14(7.78) | 23(13.2) | 7(8.97) | 1(5.55) | 49 (9.8) |
| Incurred high wages to labour / machine owner | - | 33 (18.33) | 25(14.36) | 18(23.08) | 10 (55.55) | 86 (17.2) |
| Stored crop at home or at field | - | - | - | 9 (11.54) | 2(11.11) | 11(2.2) |
| Pooled resources with villagers | 16(32) | 46(25.55) | 52 (29.89) | 24(30.76) | 8 (4.44) | 146(29.2) |

Note: Figures in parentheses indicate percentage to their respective total

and 8% of the total farmers involved family members to mitigate such shortages. In case of large land holding farmers majority of them (56%) incurred high wages to labour / machine owner.

Conclusion and Policy Implications

Overall, the impact of COVID-19 and the resulting lockdown on agriculture has been fairly severe at the state level. Rabi crops were affected during harvesting due to a labour shortage, demand of high wages by the available labour which were the key issues encountered by the majority of farmers. In addition, vegetables and fruits were sold at a lower price in the market. Farmers, on the other hand, used a variety of management solutions to address issues that arose during harvesting and marketing of crop during the lockdown. Farmers pooled resources with locals to deal with challenges, and they also enlisted the support of family members due to a labour shortage. Crises may be a fantastic teacher because, in addition to the inherent problems, they also bring up many new opportunities. The initial task in the current corona virus epidemic was to deal with concerns linked to Rabi crop harvesting and selling. Farmers have supplied timely relief for this tough period through their different actions. While the majority of the obstacles posed by the epidemic have been effectively addressed, it is equally critical to take advantage of the opportunities given by the crisis. The new opportunities that the crises have created in the agriculture supply chain network are a good example. The study shows that though the farmers faced challenges due to lockdown but they also appreciated government support system for timely procurement of wheat crop, which was able to prevent widespread misery among the farmers of the state.

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