



# Constraints Faced by Livestock and Poultry Farmers of Punjab during Covid-19 Pandemic and Actions Sought for Future Preparedness

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## Abstract

COVID-19 pandemic not only afflicted the public health but it brought a catastrophe for livestock and poultry farmers. The sudden imposition of national-wide lockdown, gave no time to livestock farmers to prepare themselves for this devastating dream. Consequently, each livestock owner suffered a major setback during this COVID-19 pandemic. This study was conducted to ascertain the types of problems farmers faced during the COVID-19 pandemic and what actions they thought are needed for preparedness to face such calamity in the future. Keeping the COVID-19 pandemic in mind, four online meetings were conducted; one each with dairy, poultry, goat, and pig farmers respectively. A total of 67 farmers participated in these online meetings. No/very low sale of livestock or their produce, feed paucity, financial crunch, diseases incidence, poor veterinary service, low knowledge level, decrease in the price of livestock produces are some of the constraints reported by the participants. Further, knowledge updation, promotion of organized sector, compensation for the losses occurred, and early warning system are some of the action measures sought by the participants. Besides, ten points agenda have been discussed which could help to make strategy for future preparedness in any eventuality.

**Keywords:** Constraints, COVID-19, Livestock Farmers, Mitigation Measures, Punjab

## Introduction

After playing a pivotal role in the green revolution in the country, Punjab is marching toward bringing new livestock revolution in the country. Presently, the state is one of the leading states in the dairy sector in India, with 4.01 million buffaloes, 2.4 million cattle, and is producing 20.16 million tonnes of milk/annum (BAHS, 2019). The per capita milk availability is highest in the country (1030 g versus 382 g). Nearly 80% of dairy farming is undertaken by smallholders as a backyard enterprise (NSSO, 2013).

The poultry sector after facing stiff challenges during 1980-2000 from extremist waves again bounced back. Currently, the state is producing 5225 million egg and per capita, availability/ annum in the state is 180 higher than the national number 74 (BAHS, 2019). Punjab farmers first did not adopt pig farming on commercial scale due to social stigma in Northern India that pig farming is related to economically weaker sections of society. From the last few years pig farming gained wide popularity in all strata of society and people are adopting it irrespective of their social status. Punjab pig farming heavily relied upon the North East pig market. The live pigs are procured and transported by the brokers to either NCT, Delhi, or directly to North Eastern states of the country. The local market of the live pig, pork, or its product is almost negligible (Sidhu *et al.*, 2019).

Goat farming is also gaining popularity in the state; people started goat farming on the stall-fed basis as the pasture lands almost vanished from the state. Presently, the state has 3.48 lacs goats. The majority of these goats are reared for meat purpose but now the goat milk is also gaining popularity in the consumer owing to its multifarious benefits. The sudden imposing of lockdown due to the corona-19 pandemic put all these farmers in the state of perplexity. All were suddenly worried about the necessity of their family members and in doing so they get very little time to look after their livestock farm. Keeping this in view the present study was planned with following objectives

- i. To enlist the constraints faced by livestock and poultry farmers during the COVID-19 pandemic.
- ii. To formulate the strategies required for future preparedness.

## Materials and Methods

The study was conducted after taking necessary permission from the higher authority of the University. Four online meetings were conducted one each with dairy farmers, goat farmers, pig farmers, and poultry farmers, respectively. An open invitation was sent for each meeting conducted on google meet on different dates on various social media especially in the WhatsApp group of farmers indicating the topic of interaction. Two persons in each meeting acted as facilitator, one person as a note-taker and one expert of clinical specialization to respond to the farmer queries on animal health if any were included in the meeting. Keeping the COVID-19 pandemic in mind, each one joined the meeting on their personal device. In the meeting, one facilitator briefed the objective of the meeting and started inviting the participants one by one as they appeared on the list. The second facilitator supplemented the role of the first one. Participants were asked about the number of animals/birds they have, problems faced, and measure required to overcome those problems. Notetaker recorded each minute of discussion in the local language. Finally, the content is translated into English and was seen by facilitators to ensure that everything is included as discussed in the interaction. The constraints and actions required were listed separately for a better understanding of the readers.

## Results and Discussion

### Characterization of Online Meet and Participants

All interaction were conducted in online mode. Majority of participants (98.5 %) were male and all were doing livestock farming at the time of meeting (Table 1). All meetings last for about 1 hour (average 1.10 hr). Two poultry farmers' were running the chicken meat shop with broiler farming, two farmers were doing commercial layer farming having more than 1 lakh layer birds, and one person was running the hatchery and supplied the day old chicks of various breeds to the other farmers.

**Table 1:** Characterization of online meet and participants

Meeting type	Online Meeting ID	Participants	Gender (Male+ Female)	Animals (Min-Max, Average)
Dairy	<a href="http://meet.google.com/vaa-hsou-mej">http://meet.google.com/vaa-hsou-mej</a>	28	25+1	2-350, 90
Goat	<a href="http://meet.google.com/his-wrsc-rzn">http://meet.google.com/his-wrsc-rzn</a>	10	10	5-150, 64
Pig	<a href="http://meet.google.com/nsr-pksn-jbr">http://meet.google.com/nsr-pksn-jbr</a>	15	15	55-115,79
Poultry	<a href="http://meet.google.com/fou-wjzc-yfb">http://meet.google.com/fou-wjzc-yfb</a>	14	14	Backyard- 1200 birds; Commercial :>1lac birds

### Constraints Faced

Constraints faced by livestock and poultry farmers were given in Table 2. Less feed availability, problems in sale of livestock and livestock produce, diseases, non-availability of veterinary services, exploitation by middlemen, and paucity of money are some common constraints faced by livestock and poultry farmers.

**Table 2:** Constraints faced by livestock and poultry farmers

Dairy Farmers	Poultry Farmers
<ul style="list-style-type: none"> <li>The problem in the sale of milk during the initial days of lockdown.</li> </ul>	The problem in sale of birds/chicks/meat
<ul style="list-style-type: none"> <li>The rumour about the spread of corona from milk and milk products.</li> </ul>	Egg storage problem
<ul style="list-style-type: none"> <li>Non-availability of feed/concentrate during initial days of lockdown.</li> </ul>	Non-availability of feed/feed ingredients during the lockdown
<ul style="list-style-type: none"> <li>Less veterinary service availability.</li> </ul>	The rumour about corona spread through egg and chicken consumption
<ul style="list-style-type: none"> <li>Nonavailability of veterinary medicine</li> </ul>	Decrease demand and severe drop-in egg rate
<ul style="list-style-type: none"> <li>Private milk companies stopped procurement of the fresh milk.</li> </ul>	Diseases problem at farms like CRD
<ul style="list-style-type: none"> <li>Reduced milk rate</li> </ul>	Labour problem
<ul style="list-style-type: none"> <li>Increased input cost.</li> </ul>	Less/no availability of medicine during the initial phase of lockdown
<ul style="list-style-type: none"> <li>Payment problem from the customers</li> </ul>	Hike in feed cost
<ul style="list-style-type: none"> <li>Huge economic losses of the farmers especially of small and marginal.</li> </ul>	Looting by traders/brokers
<ul style="list-style-type: none"> <li>Disease's occurrence- like mastitis, lameness</li> </ul>	Comparatively less demand in the state
<ul style="list-style-type: none"> <li>Sale of adulterated milk</li> </ul>	High electricity bill
<ul style="list-style-type: none"> <li>Money Paucity</li> </ul>	
Goat Farmers	Pig Farmers
The problem in the sale of animals	<ul style="list-style-type: none"> <li>Nonavailability of feed /waste</li> </ul>
The problem in the sale of milk	<ul style="list-style-type: none"> <li>Marketing of Live pig and pork</li> </ul>
No/less supply of feed	<ul style="list-style-type: none"> <li>Small and new entrants suffered the most.</li> </ul>
Less availability of veterinary service	<ul style="list-style-type: none"> <li>Looting by brokers- Less rate</li> </ul>
Low knowledge of farmers on management and disease prevention further aggravates the problems.	<ul style="list-style-type: none"> <li>The problem in the sale of overweight pigs.</li> </ul>
Nonavailability of feed	<ul style="list-style-type: none"> <li>Transportation problem.</li> </ul>
Breeding problems at the farm level	<ul style="list-style-type: none"> <li>The myth about corona and Pig farming/pork consumption.</li> </ul>
High mortality in sheep in July –August	<ul style="list-style-type: none"> <li>Non-availability of vaccine; - If somehow available, vaccine doses given were very less.</li> </ul>
The paucity of money due to the abrupt closure of the money cycle	<ul style="list-style-type: none"> <li>The influx of wild pig in Punjab from the neighboring states-further lower the rate</li> </ul>
	<ul style="list-style-type: none"> <li>North-East dependent market</li> </ul>

	<ul style="list-style-type: none"> <li>• Less consumption of pork in the northern state</li> </ul>
	<ul style="list-style-type: none"> <li>• Nonavailability of money- as rotation stopped.</li> </ul>
	<ul style="list-style-type: none"> <li>• Nonavailability of pure breed</li> </ul>
	<ul style="list-style-type: none"> <li>• For small farmer everything become costly</li> </ul>

### Action Sought

The action sought or mitigation measures are given in Table 3. Trainings, knowledge enhancement, value addition, compensation of loss, ensure and regulated supply chain of both input and output were some common actions suggested by participants. They further revealed that livestock sector including poultry should be permanently considered in essential services.

**Table 3:** Action sought by livestock and poultry farmers

Dairy Farmers	Poultry Farmers
Focus should be on small and marginal farmer's survivability.	Poultry egg and meat selling promotion should be undertaken by the government.
Technical awareness of farmers especially on reproductive problems, disease preventive measures, etc.	Godown surplus wheat should be supplied to the farmers at a low rate
Training on milk processing.	Handholding of poultry farmers.
Traditional/natural/herbal ways of animal treatment should be promoted.	Feed cost should be reduced
Livestock sector should be permanently in essential service	Electricity charges should be reduced
	Interest in bank loans should be wave off at least for 1-2 years to compensate for the loss that occurred due to the corona19 pandemic.
Goat Farmers	Pig Farmers
More awareness on technical aspects	Establishment of slaughtering cum processing plant.
The technical lecture should be organized	All the pig farmers associations/group should work in tandem
Insurance of the animals or farm	Direct market- No broker
Compensation to the farmers	Small pork meat shops should be provided to the farmers for the sale of pork
	Awareness should be created on pork quality and its benefit.
	Compensation of the losses occurred
	Pig farming should be promoted as the main occupation rather than a subsidiary occupation.
	Ensure and adequate vaccine supply
	Availability of raw material at low cost
	Govt should procure the maize then distribute us through the various routes.

Animals being live creatures, cannot be switched off or on for their production parameters, be it milk, egg, or simple growth. To keep the production at par with their genetic potential, balance feed as per requirement is a necessity. All domestic animals including poultry birds depend upon the owner for their day-to-day management. In India, there are about 8-10 crores dairy farmers, and the majority of them have 2-5 head of cattle. Similarly, goat, pig, and poultry farmers are small farmers who started these ventures to supplement their income from another source especially agriculture. These farmers have a money cycle, they earned money by selling the milk/egg/live finisher animals (Pig, goat and broilers) for meat purpose and this earned money is then used to meet the demands of animal feed, medicine and other management as well as need of owner family.

Imposing of sudden lockdown on 23<sup>rd</sup> March 2020 due to COVID-19 pandemic halt men movements' completely and in initial days supply related to livestock and poultry sector was not considered under essential items. The whole country halted at once, all the transport, movement, supplies related to the livestock sector affected severely. Spread of rumour/fake news on social media that animal products (milk/egg/meat) can spread the coronavirus

further lower the consumption of animals' products. Restriction of movements and low demands forced the farmers across the country to throw a thousand litres of milk on-road and abandoned the lakh of poultry on excluded or riverside as they were unable to handle the bulk (in case of Milk) or birds (due to paucity of money and lack of market). Similarly, the absence of marketing in pig and goats lead to the problem of overweight, even after the unlock down, buyers were not ready to buy them instead they preferred young animals rather than overweighted. These farmers then unwantedly sold their animals at a much lower rate than prevailing in the market, which again lead to their economic loss. Farmers demanded that like agriculture sector is compensated after a heavy rainfall/hailstorm/natural calamity, loss in livestock and poultry sector should also be compensated.

As all recent pandemic virus outbreaks' like HINI, Swine Flu, COVID-19, etc. had their link with the animal kingdom. The ongoing change in the respective interfaces between humans, animals, and the environment has led to an increase in major predisposing factors that allow the emergence of zoonotic viruses as novel human pathogens (Reperant and Osterhaus, 2017). India being the custodian of the world's largest livestock and bovine population has to shoulder the major responsibility in the future. Majority of Punjab's farmers are not aware with transmission, prevention and control of zoonotic diseases (Singh *et al.*, 2019) and have low to medium knowledge of zoonotic diseases (Hundal *et al.*, 2016). Further, Singh (2019) reported that majority (57.66%) dairy farmers have low knowledge about environmental health and safety in relation to dairy farming.

The following points can be helpful in future preparedness-

#### **i) *Treating the Livestock Sector and its Axillary Services in Essential Service***

In the present pandemic, after huge efforts by farmers, farmers association, corporations through animal husbandry/dairy development department, the livestock supplies come under essential supply. It should always be kept in essential services be it a pandemic, natural calamities, or restriction imposed due to any reason.

#### **ii) *Awareness on One Health***

Government through its animal husbandry and other related departments must extensively and regularly aware of the livestock farmers about the zoonotic diseases and their mode of transmission. The government needs to keep an eye on the interface between animal-human and environment. Studies should be undertaken to identify the possible risk points in livestock (dairy, goat, pig, etc.) and poultry value chain from where the zoonotic can spill over to the environment or in human beings. Recently, Singh *et al.* (2020) highlighted some risk points in dairy value chain which transmit the infections.

#### **iii) *Farmer's Knowledge Updation on Livestock Farming***

Extensive awareness campaigns on scientific livestock farming including low-cost inputs, unconventional feedstuff, preliminary health aids, and herbal treatment. Training on value addition of animal products like making ghee from milk, egg preservation, and storage/pickling/ preservation of meat should be undertaken at the mass level. Many previous studies results supported this fact (Singh *et al.*, 2020; Singh *et al.*, 2020).

#### **iii) *Stringent Quality Check on Animal Products***

The stringent quality check provisions of animal products not only reduce the chances of spread of zoonotic diseases but also develop the confidence of consumer to consume the products.

#### **iv) *Promotion of Animal Products and its Health Benefits***

Besides regular awareness campaign for the consumption of animal products and health benefits, the government must aware the consumer about taboo/myths/rumor which some time hit the market/business severely.

#### **v) *Area Wise Database of Livestock Farmers and Their Holding***

Herd/animal registration should be undertaken on a compulsory basis. Every animal should be registered in the database. Area wise farmers' information will help in the planning and execution of scheme/policy.

**vi) *Organized Marketing of Livestock Produces***

Unorganized sector still has a major hold on the marketing of livestock produce be it milk, egg, or meat. Intermediaries/middlemen are earning more profit than the producer. Measures should be undertaken by the government to promote organized sector of milk, egg and meat procurement.

**vii) *Regulation of Animal Feed Sector***

The animal feed sector should be placed under the stringent control of the qualified wing. The supply chain of final products, raw material, and quality management should be ensured both in normal and calamitic conditions. Further, govt. can channelize the surplus wheat/rice stock towards animal feed to control the shooting up the price of feed.

**viii) *Quick Disease Diagnosis and Early Warning System***

Any infectious disease outbreak, be it FMD, brucellosis, swine flu, etc. should be reported immediately and treated as an emergency. The clear and actual situation should be revealed and combating plan should be implemented at the earliest to prevent the spread of infectious disease. This envisaged formulation of rapid action veterinary wing, strengthening of disease diagnostic facilities at district/state level, early warning system and combat planning. Similarly, International Zoonotic Disease Vigil Cell at country level should be created to keep an eye on emerging disease and controlling its insurgence in the country.

**ix) *Convergence Between Scientists, Policymakers and the Public***

Cohesiveness between the top authorities of different institutes, policymakers, implementors, extension workers and public, etc. is of utmost importance to ensure the proper implementation of combat plan and preventive strategies.

**x) *Compulsory Animal Health Insurance***

This sector though remained neglected but has huge potential. Government should try to popularise and implement it on compulsory basis. In an event of any zoonotic disease outbreak, it will be easier for government to implement the combat plan through disposal of the animals in a scientific manner to halt the disease spread as farmers will get insured amount for their animals. Hence, they will cooperate with the government.

The recent surfacing of news about the new outbreak of a novel virus in China rings danger bells for us and further envisaged the preparedness actions for the livestock sector. Though the study was conducted in Punjab but suggested preparedness action measures can be implemented in the whole country through the Ministry of Animal Husbandry and Dairying.

**Conclusion**

The COVID-19 pandemic hit severely not only the public health but also livestock sector in the country. Feed shortage, problems in sale of live livestock/livestock produce, exploitation by middlemen, diseases incidences, and loss of income are some of the major constraints faced by livestock farmers. Extensive awareness campaign, focus on value addition, ensured input and output value chain, financial aids are some of the immediate action measures sought by farmers.

**Conflict of Interests**

There is no conflict of interest.

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