

Operational, Logistics and Marketing Problems for Farmers of Perishable Agricultural Products in Salem District Due to Covid-19 Crisis

M.Shirpi

*Research Scholar (Ph.D. Part-Time)
Department of Management Studies
Periyar University, Salem, Tamil Nadu*

Dr.P.Thirumoorthi

*Associate Professor
Department of Management Studies
Periyar University, Salem, Tamil Nadu*

Abstract:

Due to COVID-19 disaster and lockdown imposed by the government, farmers find difficult to harvest, transport and sell them at competitive prices. Farmers cultivating perishable agricultural products (Tomato, Brinjal, Ladies Finger, Bitter Gourd, Leafy vegetables and Flowers) face lots of difficulties and problems in Salem district due to the curfew conditions. These products are cultivated around 10,000 Hectares and 1,30,000 metric tons are produced. Farmers face problems in operational, logistics and marketing problems due to COVID-19 conditions. Measures have been suggested to reinstate the cultivation activities of farmers in Salem district.

Keywords: Perishable Agricultural Products, COVID-19, Curfew Conditions, Farmers Problems, Post-Corona Measures

I. INTRODUCTION

In India as well as in Tamil Nadu, perishable agricultural products sector is the most profitable activity in farming as it provides daily income and low investment to the farmers. Perishable Agro products play an important role in India's economy by improving the income of rural people. While considering the agricultural perishables, managing the freshness and delivery of these products play a crucial role. These products have to be transported overnight, sold within a day and consumed within limited time. Whether it is tomato or vegetables or flowers, when they are delivered freshly, they fetch good prices. Due to COVID-19 disaster and lockdown imposed by the governments, farmers find difficult to harvest, transport and sell them at competitive prices. Farmers face lots of difficulties and problems due to the curfew conditions. This article covers the study about the problems faced by the farmers of perishable products in Salem district due to lockdown. It also discusses the post-lockdown effects in terms of operational and logistics disruptions.

II. BACKGROUND OF THE STUDY

The COVID-19 (Corona Virus) pandemic has set foot in India across economic sectors. The governments (Central and State) imposed a 21-day countrywide lockdown to stop the spread of the Corona virus pandemic. Further it is extended up to May 3, due to more positive cases in most of the country. There are more than 17,000 confirmed cases of Corona virus in the country as on 20th April, 2020 (MoHFW, India). While the government has exempted many agricultural operations from harvesting to movement of produce markets and mandis from lockdown rules.

COVID-19 is disrupting some activities in agriculture and supply chain. Preliminary reports show that the non-availability of migrant labour is interrupting the harvesting activities. Also new farming activities are also affected. There are also disruptions in supply chains because of transportation problems and other restrictions. There are price fluctuations in these disaster period. Media reports show that the closure of hotels and restaurants during the lockdown is depressing the sales of agricultural commodities. Further household consumption is also reduced due to decline or no income for the unorganized labourer and daily wagers. The real situation is worrisome about the farmers on various agricultural activities.

III. PERISHABLE AGRICULTURAL PRODUCTS

Most of the agricultural products are of perishable nature, but all are not equally perishable within same duration of time. Some products perish with shorter time and some others remain usable for little longer. Mil, fruits, vegetables, flowers etc. remain fresh only for shorter time, so they are quickly perishable. Such products should be supplied to market as quicker as possible.

Most of the perishable agricultural commodities are very important to meet daily needs of people. So, it is required to have daily supply of agricultural commodities like food grains, milk, fruits, vegetables, etc. The consumption of these products does not decrease or increase much due to rise or fall of their prices. Though the prices of agricultural products rise, the consumers are necessitated to go for their daily needs at minimum level. The prices of agricultural products are always unstable. The prices are affected by the supply and demand conditions and seasonality of the products.

IV. LITERATURE BACKGROUND

S.Shanmuga Sundaram and Natarajan (2001) in their article, "A study on Uzhavar Sandhai" (With Special Reference to Beneficiaries Attitude Towards Suramangalam Uzhavar Sandhai, Salem), have examined the operations of farmers' market and found that farmers' markets help the farmers to get a reasonable price for their produce avoiding all unwanted and unreasonable charges. The consumers were facilitated to get fresh vegetables at a cheaper price without any malpractice in weighing. Their investigation prompted them to suggest establishment of telephone facilities, extension of business time (working hours) and working of the market both in the morning and evening.

4.1 News Coverages by Newspapers and Magazines

"Prices dropped for vegetables as the lockdown continues and consumption reduced. Farmers are in loss of their income. There is no bulk sale for hotels and restaurants. Also, there are no sales for functions like wedding and temple festivals" [**Daily Thanthi (Salem Edition), 27.03.2020**]

"Rs.120 crores of trade have been affected in Jasmine sales in Salem district and nearby areas. 800 farmers who cultivated the flowers in 3000 acres have lost their earnings."

[**Daily Thanthi (Salem Edition), 28.03.2020**]

"Flowers become fertilizers in 200 acres of farmlands. Farmers of flower cultivation are in tears. They expected good sales for Rama Navami festival; but due to Corona virus crisis all went in loss". [**Dinakaran (Salem Edition), 12.04.2020**]

Anathan lives in a small village called Pannapatti of Omalur Taluk. He has three children who are at home due to the lockdown. They accompany him to the field which is in full bloom right now. But even Anathan talks to us about the losses he incurred this season.

"Anathan usually makes a lakh as profit from his marigold and other flowers cultivation. However, Anathan has not harvested a single flower this year due to unavailability of labourers. Moreover, he has to pay his farmlands Rs.150 each day".

"The government has not helped us yet. I have cultivated two-and-a-half acres. I have lost everything. All the flowers are wilting. We don't have food at home. The government has given us Rs 1,000. Nothing else," Anathan said.

"There are no temples or shops open. Where do we pluck these flowers and go? All temples and shops are closed. There were a few shops which needed garlands. They are also closed. We cannot go to the markets also", he said. **[India Today, 17.04.2020]**

"Nearly 400 acres of Tomato are left to spoil in the plants due to unavailability of labourers to harvest and transport them to market. Button Rose flowers are kept to dry in the plants since there are no buyers. The harvesting cost will be more than selling price"

[Daily Thanthi (Salem Edition), 16.04.2020]

Mr.Deivasigamani, President of Tamil Nadu Farmers Federation said, "Labourers refused to come for agricultural works due to curfew. No new crops are cultivated for the past 60 days. No takers available for agricultural produces". **[Dinakaran (Salem Edition), 19.04.2020]**

It is the time of the year when marigold flowers are in full bloom. For three months of summer, the fields are bright and yellow and farmers look over their fields with a smile on their faces. This year, the fields are bright but the farmers stand by their fields with worry clouding their faces.

Babu walks to his field with his family. He has cultivated marigold in about 2 acres of leased land. The marigold saplings have been bought from Hosur. Babu pays 3,000 rupees a year for the land. In addition, Rs 700 a week for water. Fertilizers and labour are an additional expense. His hard work has paid off. His field is full of flowers, but due to the lockdown, the only question in Babu's head is how does he make up for the loss of Rs 1.5 lakh.

"It is Rs 2 for each sapling. For 40 cents of land, the saplings cost Rs 8,000. Fertilizer, labour and water for 40 cents come to at least Rs 50,000. That's another 70 cents. My total loss is about a lakh and a half", said Babu. **[The Hindu Businessline, 13.04.2020]**

"Farmers destroyed 50 acres of Samandhi flowers using tractors at Omalur union (Kamalapuram) as there is no possibility of sending them to Bengaluru and Thirupathi. **[Dinakaran (Salem Edition), 21.04.2020]**

V. STUDY AREA

The study area is Salem district of Tamil Nadu which is located between 11.14° and 12.53° North and 77.44° and 78.50° East in the north central part and it spreads about 5245 sq.km, and it is a landlocked area. The area has well marked with hills in the north and south eastern directions. The study area is an ideal location for bio-model rainfall; summer showers bring half of the seasonal rain. This area is call Geological Paradise due to the occurrence of varieties of rocks and minerals, and also famous for its rainfed and irrigated agriculture. The population of Salem district is 34,80,008 according to 2011 census and it ranked fifth among the district wise population of Tamil Nadu state. At present Salem district contains 10 Taluks, 20 blocks, 4 municipalities, one corporation, 34 town panchayats, 20 panchayat unions, 385 village panchayats and 646 revenue villages. The district has wide variety of agricultural, horticultural, industrial and business activities.

Out of the total geographical area of 5,20,530 Ha, the net cropped area accounts for 53.39%. In places where irrigation sources are good, paddy, sugarcane and turmeric are cultivated. Cash crops such as Cotton, groundnut, tapioca, gingelly, tomato, flowers and vegetables are also found significant place in the cultivation. The land utilization details given in fig. no.1.

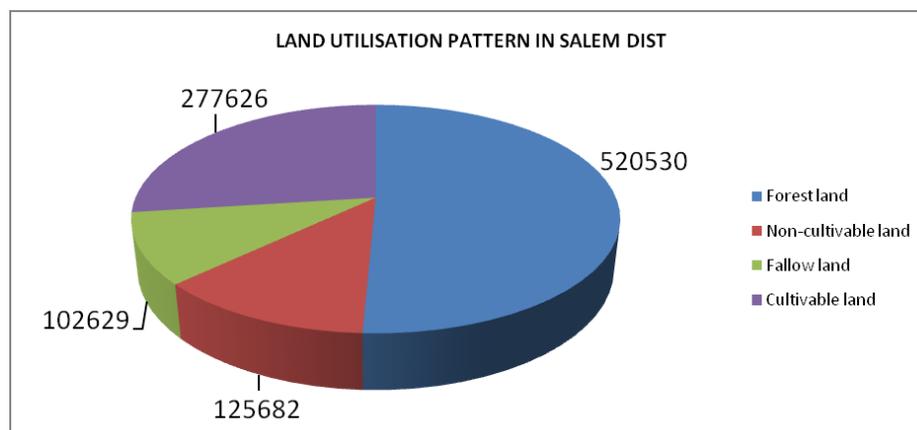


Fig. No.:1 Land Utilization in Salem District

VI. PERISHABLE AGRICULTURAL PRODUCTS IN SALEM DISTRICT

The details of perishable agricultural products cultivated in Salem district are given in the Table no.1

Table No.: 1 Cultivation of Perishable Agricultural Products in Salem District

Product	Places of cultivation	Area of Cultivation (Ha) Approx.	Production (MT/Annum)
Tomato	Mecheri, Omalur, Taramangalam, Kadayampatti and Nangavalli	4200	38,000 - 40,000
Brinjal	Omalur, Attur, Thalaivasal, Vazhapadi, Sankari, Veerapandi	1100	10,000 – 12,000
Ladies Finger	Sankari, Edappadi, Omalur, Attur, Thalaivasal, Gangavalli	1200	15,000 - 16,000
Bitter Gourd	Attur, Gangavalli, Edappadi, Mecheri	700	5,000 – 6,000
Leafy Vegetables (Spinage, Coriander leaf, Dhania leaf)	Omalur, Kadayampatti, Thalaivasal	1000	20,000
Flower (Jasmine, Chrysathemums - Samandhi, Rose, Button Rose, etc.)	Panamarathupatti, Kadayampatti, Omalur, Veerapandi	900 - 1200	20,000 – 22,000
Fruits (Watermelon, Mulampalam)	Mecheri, Mettur, Kolathur, Attur, Sankari	400	12,000 – 14,000
Other Vegetables (Snake Gourd, Bottle Gourd etc.)	Thalaivasal, Omalur, Aythiyapattinam, Kadayampatti, Panamarathupatti	600	6,000 – 8,000

Source: Directorate of Horticulture and Plantation Crops, Chennai

VII. OPERATIONAL AND LOGISTICS DISRUPTIONS DUE TO COVID-19 LOCKDOWN

The prolonged COVID-19 lockdown forced to face many disruptions to the farmers of perishable agricultural products in Salem district. Few of the are listed below:

Operational Problems

- Shortage of labour for harvesting
- Unavailability of equipment and machinery for farming
- Inadequate supply of material inputs

Logistics Problems

- Inadequate Storage Facilities
- Unavailability of transportation facilities
- Restriction for movement of people and goods

Marketing Problems

- Lack of appropriate market facilities
- Lack of market information
- Reduced Demand and Consumption
- Price Fluctuations
- Lack of Support from Government Agencies

7.1 OPERATIONAL PROBLEMS

1.Shortage of Labour for Harvesting

The perishable items are harvested on daily basis either in the early morning or evening time to keep the freshness and obtain the appropriate yielding. Due to COVID-19, the agricultural labourers are restricted for movement. Hence the products are spoiling in the plants itself, which makes huge loss to the farmers.

In some areas the non-farming labourers are available at cheaper cost due to their lay-off or loss of their original jobs. But this does not result in expected yield and quality of work.

2. Unavailability of Machinery and Equipment

Due to lockdown the availability of tractors, harvesting machines and crushers is restricted. This makes problems both in sowing, cultivation and harvesting activities. Moreover, the unavailability of equipment and repairmen makes long hangover of farming activities.

3. Inadequate Supply of Material Inputs

The agricultural material inputs like seed, sapling plants (tomato, brinjal), fertilizers and pesticides are supplied nil or inadequately. This makes problem in seasonal cultivation and other operational difficulties in farming.

7.2 LOGISTICS PROBLEMS

1.Inadequate storage Facilities

Table No.:2 Post-Harvest Life of Few Perishable Products

Products	Post-Harvest Life (at 30 – 35 Degrees)	Post-Harvest Life (at 15 Degrees)
Tomatoes	2 – 3 Days	14 Days
Vegetables (Cabbage, Carrots, Cali – Flower etc.)	1 Week	8 Weeks
Green Leaves (Spinach)	1 Day	5 Days
Flowers	1 Day	1 Week

Source: Department of Horticultural Crops, Tamil Nadu

Farming activities of perishable products are not done in large scale. They are cultivated by small growers and they lack in storage facilities. Due to perishable nature of the products, the self-life can be expanded by cold-storage and other facilities. The following table gives the self-life expansion via cold storage facilities.

2. Unavailability of Transportation Facilities

Generally, the perishable products are moved from village farmlands to urban areas. Vegetables are directly from farmlands to market places by small vans or buses. Flowers are taken from Agri-fields to markets and airports (for exports) by vans and buses. They need to be transported as quick as possible. Leafy vegetables require to be transported overnight by two wheelers, minivans and autos. Due to lockdown and curfew restrictions, the transportation of perishable agricultural items faces difficulties.

3. Restrictions for Movements of People and Goods

Curfew restrictions have limited movements of people and goods. Particularly time restrictions imposed by authorities stopped the people to move away from their homes during 1.00 PM to 6.00 AM. Though the vegetables and fruits come under essential commodities, these restrictions result in logistics difficulties which finally resulted the wastages.

7.3 MARKETING PROBLEMS

1.Lack of Appropriate Market Facilities

The perishable agricultural products are sold in common market places (Uzhavar Sandis, City Markets and Vegetable and fruit vendor shops) in normal days. Due to curfew conditions people are strictly prohibited to crowd in public places. It is also required to maintain social distancing among individuals. These measures have made the authorities to shift vendor from small markets into a larger space like bus stands and grounds temporarily. The vegetable super markets are required to follow the curfew conditions. Farmers are forced to wandering for finding appropriate market places.

2. Reduced Demand and Consumption

Corona Pandemic situation makes the closure of hotels and restaurants. Due to this the demand for vegetables and leafy vegetables got reduced. Few vegetables and flowers lose the export orders due to halting of flights. Temples are also closed for Dharshan of general public which has resulted the purchase of flowers for religious purpose. Only the household consumption is met by the market players. Due to reduced income majority of the consumers have reduced their purchase of day-to-day vegetable requirement. Hence the demand is reduced for all varieties of perishable agricultural products

3. Lack of Market Information

There are government agencies (Regulated market committees, Agricultural and Horticultural departments, Uzhavan App etc.) and intermediaries are available during normal market conditions. They provide the market information like the supply, demand and price information to the farmers. Also, they provide the guidelines for crop pattern for different seasons. The prolonged lockdown has disrupted the sources of information.

4. Price Fluctuations

It is a major issue for the growers of perishable agricultural products. The prices of all vegetables and other agricultural commodities surged during the previous days of curfew. The prices increased due to the panic nature of general public and all the vegetable shops were crowded. That made shortage of products and prices were raised by the sellers. That fetched good returns to the farmers for one or two days. But the situation changed because of reduced demand and consumption in the later days. Many vegetables attract below the actual cost of production in which the farmers lose their money in harvesting and selling the products. A comparative price changes is given in table no.

Table No.:3 Price Fluctuations during Lockdown period

Products	Average Price (Rs.)/Kg			
	23.03.2020	31.03.2020	10.04.2020	19.04.2020
Tomato	24	18	12	10
Brinjal	48	38	30	22
Ladies Finger	38	30	20	18
Bitter Gourd	60	45	30	24
Leafy Vegetables	5 -10/bundle	5 – 8/bundle	3 – 5/bundle	3 – 5/bundle
Flowers	150 – 400	100 - 200	60 - 100	50 - 100

Source: Various print and visual media

5. Lack of support from Government Agencies

All the government agencies have been halted due to curfew conditions. There are no people available in agricultural and horticultural department offices to monitor and inform the important market information and carry out the facilitating activities. There are also lack of credit facilities from institutions. There is no hearing for compensation for loss of crops during cultivation and harvesting. Hence the farmers are suffering from unavailability of supportive activities.

VIII. ASSISTANCE PROVIDED TO FARMERS AFTER LOCKDOWN

Immediately after the nation-wide lockdown was announced, the Indian Finance Minister declared an INR 1.7 trillion package, mostly to protect the vulnerable sections (including farmers) from any adverse impacts of the Corona pandemic. The announcement, among a slew of benefits, contained advance release of INR 2000 to bank accounts of farmers as income support under PM-KISAN scheme. The Government also raised the wage rate for workers engaged under the NREGS, world's largest wage guarantee scheme. Under the special scheme to take care of the vulnerable population, *Pradhan Mantri Garib Kalyan Yojana* (Prime Minister's scheme for welfare of the poor), has been announced.

The Indian Council of Agricultural Research (ICAR) has issued state-wise guidelines for farmers to be followed during the lockdown period. The advisory mentions specific practices during harvest and threshing of various *rabi* (winter sown) crops as well as post-harvest, storage and marketing of the farm produce.

The Reserve Bank of India (RBI) has also announced specific measures that address the "burden of debt servicing" due to COVID19 pandemic. Agricultural term and crop loans have been granted a moratorium of three months (till

May 31) by banking institutions with 3 percent concession on the interest rate of crop loans up to INR 300,000 for borrowers with good repayment behavior.

Government of Tamil Nadu has announced a three months moratorium (till June 30, 2020) for repayment of instalments for crop loans and payment of certain charges for repayment of instalments for the crop loans availed from cooperative institutions. They have been exempted the charges of storage in cold storages.

IX. COVID-19 MEASURES FOR FARMERS OF PERISHABLE AGRICULTURAL PRODUCTS

Farmers and agricultural wagers should be included in the Government's assistance package and other social protection programs addressing the crisis after lockdown.

The Central Home Ministry's circular relaxing restrictions for movements of farmers, agricultural labourers and harvesting and related farm machines on the inter and intra-state is a needed step in right time. While ensuring availability of farm labourers for essential farm operations, the safety from COVID-19 infection and welfare must be ensured by the government agencies.

It is required to make available the food grains, vegetables, fruits and other essential items to the consumers, both in rural and urban areas, is the priority challenge for government agencies during the lockdown and post lockdown periods. With adequate safety measures, efficient functioning of the logistics system is necessary for perishable agricultural products. Transportation of products by both rail and road and public distribution system (PDS) must be ensured by government departments.

State governments must gear up their machineries for procurement operations of farmers' surplus products through price support schemes or fixation of Minimum Support Price.

Government agencies as well the farmers should identify the alternative places of selling their products along with sandis and mandis. For example, the flower plant growers can look for selling their products to perfume manufacturing industries. Likewise, the fruit plant farmers can look for juice and pulp manufacturers for selling their fruits.

As the farmers of agricultural perishable products are small scale players, it is not adequate to provide moratorium of payment of loans for few months, but government can think of waiver of crop loans up to a certain sealing of loan amount.

Institutional lending of crop loans should be expanded and facilitated for smooth (and sufficient) flow of credit to borrowing farmers. Agricultural inputs like seeds, fertilizers, pesticides, etc. have to be made adequate availability. Private sector must play a significant role with necessary policy support.

As the lockdown conditions have increased, a new culture of home delivery of groceries and vegetables has risen in all parts of the country. But it is not in an organized manner. The home delivery of products can be clubbed with the farm pick-up with a new form of supply chain, which will become a new marketing model during the pandemic period for maintaining safe and healthy measures.

X. CONCLUSION

COVID-19 is an unexpected and unprecedented challenge for all sectors of society and economy throughout the world. The lockdown conditions and social distancing would have longer impact in all forms of human life. This study has attempted the problems faced by the farmers of perishable agricultural products based on the news available in print and visual media. The real statistics of the problems have not studied, but an explorative coverage has been done. Since the study was made during the lockdown period, it is important to measure the real impact of the problems after the relaxation. The real measure will definitely provide to go for a strategy formulation for safeguard and relief measures in any form of crisis times.

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