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An economic analysis of the rising trend and pattern of E-groceries on different mandis in Punjabi Bagh, West Delhi

Sharon Praise A Samuel and Dr. Sanjay Kumar

Abstract

The paper shows the reason for decline of sales and market of mandis in Punjabi Bagh Keshovpur Mandi, Delhi and local mandis in that area during COVID-19 which caused lockdown and later on effected the mandis and gave upliftment to the e-commerce with various different trends in the e-commerce industry. With this paper we can see the gift of interest and habit of customers more toward buying goods online especially vegetable rather buying them offline even after difference in prices and quality.

Keywords: E-commerce, lockdown, COVID-19, mandis

Introduction

A large number of agricultural mandis shut down when the lockdown was first announced. A detailed study of 1331 mandis across the country has shown that during the first 21 days of the lockdown, the number of 3 mandis that were operational fell very significantly. Although the number of mandis that were operational has increased after the first phase of the lockdown, the resumption of operations has been very slow. An updated analysis of data from mandis showed that, even if one takes the entire period of first two phases of the lockdown, the total arrival of wheat in the mandis was only 30 per cent of the arrivals in the same period last year. The functioning of mandis has been marred by complicated procedures imposed in the name of enforcing social distances. In most States, no more than 30-50 farmers are being allowed to sell their crops in a day. As a result of restrictions on the number of farmers who were allowed into the mandis on any day, there were often long queues of farmers, with tractor-loads of grain, waiting outside the mandis gates for hours and days. In many States, farmers are required to do an online registration and are given a particular date for taking their produce to the mandis. Clearly, the fact that many farmers do not have access to the internet, and do not know how to use the internet, is not something that concerns our policy makers. Lack of proper infrastructure and facilities in the mandis has also created the problem that Coronavirus infections have been spreading among traders, workers and retailers who work in the mandis. Several mandis have been identified as super spreaders of Coronavirus. There are many reports of closing down of mandis because of Coronavirus infections. This became major cause of disruptions in sale of produce in the mandis in the recent weeks. (Rawal and Kumar 2020 *et al.*)

Results

Channels

1. Producer --- Auctioneer (APMC) --- Wholesaler --- Customer
2. Producer --- Auctioneer (APMC) --- Wholesaler --- Retailer --- Customer

Table 1: Producer---Auctioneer --- Wholesaler --- CustomeR (Rs/Qntl)

Sr. No	Particulars	Producers Sale Price	Auctioneer Commission	Miscellaneous Cost	Wholesaler Marketing Cost	Wholesaler buying Price	Wholesaler Marketing Margin	Wholesaler Selling Price	Total Marketing Cost	Total Marketing Margin	Customer paid price	Price Spread	Marketing Efficiency
1	Beetroot	1207.7	96.61	24.15	120.77	1304.3	391.3	1695.6	120.77	487.9	1695.6	608.7	2.8
2	Bitter Gourd	1979.6	158.37	39.59	197.96	2138.0	641.4	2779.4	197.96	799.8	2779.4	997.7	2.8
3	Brinjal	1237.3	98.98	24.75	123.73	1336.3	400.9	1737.1	123.73	499.9	1737.1	623.6	2.8
4	Broccoli	6710.6	536.85	134.21	671.06	7247.5	2174.2	9421.7	671.06	2711.1	9421.7	3382.2	2.8
5	Cabbage	1035.4	82.84	20.71	103.54	1118.3	335.5	1453.8	103.54	418.3	1453.8	521.9	2.8
6	Capsicum	2261.6	180.93	45.23	226.16	2442.6	732.8	3175.3	226.16	913.7	3175.3	1139.9	2.8
7	Carrot	2027.9	162.23	40.56	202.79	2190.1	657.0	2847.1	202.79	819.3	2847.1	1022.1	2.8
8	Cauliflower	2048.2	163.86	40.96	204.82	2212.1	663.6	2875.7	204.82	827.5	2875.7	1032.3	2.8
9	Colocasia/Arvi	2197.5	175.80	43.95	219.75	2373.3	712.0	3085.3	219.75	887.8	3085.3	1107.5	2.8
10	Coriander Lev	3845.3	307.62	76.91	384.53	4152.9	1245.9	5398.7	384.53	1553.5	5398.7	1938.0	2.8
11	Cucumber	1586.2	126.90	31.72	158.62	1713.1	513.9	2227.0	158.62	640.8	2227.0	799.4	2.8
12	French Beans	3222.6	257.81	64.45	322.26	3480.4	1044.1	4524.6	322.26	1301.9	4524.6	1624.2	2.8
13	Garlic	9721.4	777.72	194.43	972.14	10499.2	3149.7	13648.9	972.14	3927.5	13648.9	4899.6	2.8
14	Ginger	6736.3	538.90	134.73	673.63	7275.2	2182.6	9457.7	673.63	2721.5	9457.7	3395.1	2.8
15	Green Chillies	2465.3	197.22	49.31	246.53	2662.5	798.8	3461.3	246.53	996.0	3461.3	1242.5	2.8
16	Green Peas	4860.4	388.83	97.21	486.04	5249.2	1574.8	6823.9	486.04	1963.6	6823.9	2449.6	2.8
17	Lady Finger	2185.0	174.80	43.70	218.50	2359.8	707.9	3067.8	218.50	882.7	3067.8	1101.2	2.8
18	Lemon	3083.5	246.68	61.67	308.35	3330.2	999.1	4329.3	308.35	1245.7	4329.3	1554.1	2.8
19	Methi	2064.6	165.17	41.29	206.46	2229.8	668.9	2898.7	206.46	834.1	2898.7	1040.6	2.8
20	Mint Leaves	1454.3	116.34	29.09	145.43	1570.6	471.2	2041.8	145.43	587.5	2041.8	733.0	2.8
21	Onion	2214.5	177.16	44.29	221.45	2391.7	717.5	3109.2	221.45	894.7	3109.2	1116.1	2.8
22	Palak	960.1	76.80	19.20	96.01	1036.9	311.1	1347.9	96.01	387.9	1347.9	483.9	2.8
23	Potato	1062.5	85.00	21.25	106.25	1147.5	344.3	1491.8	106.25	429.3	1491.8	535.5	2.8
24	Pumpkin	824.3	65.94	16.49	82.43	890.2	267.1	1157.2	82.43	333.0	1157.2	415.4	2.8
25	Raddish	580.8	46.47	11.62	58.08	627.3	188.2	815.5	58.08	234.7	815.5	292.7	2.8
26	Raw Banana	992.4	79.39	19.85	99.24	1071.7	321.5	1393.3	99.24	400.9	1393.3	500.1	2.8
27	Sweet Corn	4908.3	392.66	98.17	490.83	5300.9	1590.3	6891.2	490.83	1982.9	6891.2	2473.8	2.8
28	Tinda	3231.7	258.54	64.63	323.17	3490.3	1047.1	4537.3	323.17	1305.6	4537.3	1628.8	2.8
29	Tomato	1742.3	139.38	34.85	174.23	1881.7	564.5	2446.2	174.23	703.9	2446.2	878.1	2.8
30	Zucchini	1778.1	142.25	35.56	177.81	1920.4	576.1	2496.5	177.81	718.4	2496.5	896.2	2.8
31	Jimikand	1444.8	115.58	28.90	144.48	1560.4	468.1	2028.5	144.48	583.7	2028.5	728.2	2.8

Table 2: Producer---Auctioneer --- Wholesaler --- Retailer --- Customer (Rs/Qntl)

Sr. No.	Particulars	Producer's Sale Price	(APMC) Commission	Miscellaneous Cost	Wholesaler Marketing Cost	Wholesaler buying Price	Wholesaler Marketing Margin	Retailer's Buying Price	Retailers Marketing Cost	Retailer's Marketing Margin	Selling Price	Total Marketing Cost	Total Marketing Margin	Customer paid price	Price Spread	Marketing Efficiency
1	Beetroot	1207.7	96.61	24.15	120.77	1304.3	260.9	1565.2	78.3	469.5	2113.0	199.03	827.0	1565.2	1026.0	1.5
2	Bitter Gourd	1979.6	158.37	39.59	197.96	2138.0	427.6	2565.6	128.3	769.7	3463.6	326.24	1355.7	2565.6	1681.9	1.5
3	Brinjal	1237.3	98.98	24.75	123.73	1336.3	267.3	1603.5	80.2	481.1	2164.7	203.90	847.3	1603.5	1051.2	1.5
4	Broccoli	6710.6	536.85	134.21	671.06	7247.5	1449.5	8697.0	434.8	2609.1	11740.9	1105.91	4595.4	8697.0	5701.3	1.5
5	Cabbage	1035.4	82.84	20.71	103.54	1118.3	223.7	1341.9	67.1	402.6	1811.6	170.64	709.1	1341.9	879.7	1.5
6	Capsicum	2261.6	180.93	45.23	226.16	2442.6	488.5	2931.1	146.6	879.3	3957.0	372.72	1548.8	2931.1	1921.5	1.5
7	Carrot	2027.9	162.23	40.56	202.79	2190.1	438.0	2628.1	131.4	788.4	3548.0	334.19	1388.7	2628.1	1722.9	1.5
8	Cauliflower	2048.2	163.86	40.96	204.82	2212.1	442.4	2654.5	132.7	796.3	3583.5	337.54	1402.6	2654.5	1740.2	1.5
9	Colocasia/Arvi	2197.5	175.80	43.95	219.75	2373.3	474.7	2848.0	142.4	854.4	3844.7	362.15	1504.8	2848.0	1867.0	1.5
10	Coriander	3845.3	307.62	76.91	384.53	4152.9	830.6	4983.5	249.2	1495.0	6727.7	633.70	2633.2	4983.5	3266.9	1.5
11	Cucumber	1586.2	126.90	31.72	158.62	1713.1	342.6	2055.7	102.8	616.7	2775.2	261.40	1086.2	2055.7	1347.6	1.5
12	French Beans	3222.6	257.81	64.45	322.26	3480.4	696.1	4176.5	208.8	1253.0	5638.3	531.09	2206.9	4176.5	2737.9	1.5
13	Garlic	9721.4	777.72	194.43	972.14	10499.2	2099.8	12599.0	629.9	3779.7	17008.6	1602.09	6657.2	12599.0	8259.3	1.5
14	Ginger	6736.3	538.90	134.73	673.63	7275.2	1455.0	8730.2	436.5	2619.1	11785.8	1110.14	4613.0	8730.2	5723.1	1.5
15	Green Chillies	2465.3	197.22	49.31	246.53	2662.5	532.5	3195.0	159.8	958.5	4313.3	406.28	1688.2	3195.0	2094.5	1.5
16	Green Peas	4860.4	388.83	97.21	486.04	5249.2	1049.8	6299.0	315.0	1889.7	8503.7	800.99	3328.4	6299.0	4129.4	1.5
17	Lady Finger	2185.0	174.80	43.70	218.50	2359.8	472.0	2831.8	141.6	849.5	3822.9	360.09	1496.3	2831.8	1856.4	1.5
18	Lemon	3083.5	246.68	61.67	308.35	3330.2	666.0	3996.2	199.8	1198.9	5394.9	508.16	2111.6	3996.2	2619.8	1.5
19	Methi	2064.6	165.17	41.29	206.46	2229.8	446.0	2675.7	133.8	802.7	3612.2	340.25	1413.8	2675.7	1754.1	1.5
20	Mint Leaves	1454.3	116.34	29.09	145.43	1570.6	314.1	1884.8	94.2	565.4	2544.4	239.67	995.9	1884.8	1235.6	1.5
21	Onion	2214.5	177.16	44.29	221.45	2391.7	478.3	2870.0	143.5	861.0	3874.5	364.95	1516.5	2870.0	1881.4	1.5
22	Palak	960.1	76.80	19.20	96.01	1036.9	207.4	1244.2	62.2	373.3	1679.7	158.22	657.4	1244.2	815.7	1.5
23	Potato	1062.5	85.00	21.25	106.25	1147.5	229.5	1377.0	68.9	413.1	1859.0	175.10	727.6	1377.0	902.7	1.5
24	Pumpkin	824.3	65.94	16.49	82.43	890.2	178.0	1068.2	53.4	320.5	1442.1	135.84	564.4	1068.2	700.3	1.5
25	Raddish	580.8	46.47	11.62	58.08	627.3	125.5	752.7	37.6	225.8	1016.2	95.72	397.7	752.7	493.5	1.5
26	Raw Banana	992.4	79.39	19.85	99.24	1071.7	214.3	1286.1	64.3	385.8	1736.2	163.54	679.6	1286.1	843.1	1.5
27	Sweet Corn	4908.3	392.66	98.17	490.83	5300.9	1060.2	6361.1	318.1	1908.3	8587.5	808.88	3361.2	6361.1	4170.0	1.5
28	Tinda	3231.7	258.54	64.63	323.17	3490.3	698.1	4188.3	209.4	1256.5	5654.2	532.59	2213.1	4188.3	2745.7	1.5
29	Tomato	1742.3	139.38	34.85	174.23	1881.7	376.3	2258.0	112.9	677.4	3048.3	287.13	1193.1	2258.0	1480.2	1.5
30	Zucchini	1778.1	142.25	35.56	177.81	1920.4	384.1	2304.4	115.2	691.3	3111.0	293.03	1217.7	2304.4	1510.7	1.5
31	Jimikand	1444.8	115.58	28.90	144.48	1560.4	312.1	1872.5	93.6	561.7	2527.8	238.10	989.4	1872.5	1227.5	1.5

The table 1 reveals the marketing channel I, in which the farmer gets its amount according to it produce on the bases of APMC pricing ie Beetroot Bitter Gourd, Brinjal, Broccoli, Cabbage, Capsicum, Carrot, Cauliflower, Colocasia/Arvi, Coriander Leaves, Cucumber, French Beans, Garlic, Ginger, Green Chillies, Green Peas, Lady Finger, Lemon, Methi, Mint Leaves, Onion, Palak, Potato, Pumpkin, Radish, Raw Banana, Sweet Corn, Tinda, Tomato, Zucchini and Jimikand on an average for Rs1207.7, Rs.1979.6, Rs.1237.3, Rs.6710.6, Rs.1035.4, Rs2261.6, Rs.2027.9, Rs.2048.2, Rs.2197, Rs.3845.3, Rs.1586.2, Rs.3222.6, Rs.9721.4, Rs.6736.3, Rs.2465.3, Rs.4860.4, Rs.2185.0, Rs.3083.5, Rs.2064.6, Rs.1454.3, Rs.2214.5, Rs.960.1, Rs.1062.5, Rs.824.3, Rs.580.8, Rs.992.4, Rs.4908.3, Rs3231.7, Rs1742.3, Rs.1778.1 And Rs.1444.8 respectively.

Then to which the commission agent or the auctioneer who is considered as adds his commission or 6% additional to packaging and labor charge of 2% in total 8% of commission to the wholesaler and then sells his goods to the customers at a margin at 35% at Rs1695.6, Rs2779.4, Rs1737.1, Rs9421.7, Rs1453.8, Rs3175.3, Rs2847.1, Rs2875.7, Rs3085.3, Rs5398.7, Rs2227.0, Rs4524.6, Rs13648.9, Rs9457.7, Rs3461.3, Rs6823.9, Rs3067.8, Rs4329.3, Rs2898.7, Rs2041.8, Rs3109.2, Rs1347.9, Rs1491.8, Rs1157.2, Rs815.5, Rs1393.3, Rs6891.2, Rs4537.3, Rs2446.2, Rs2496.5 and Rs2028.5 respectively.

In table 2 reveals the marketing channel II, in which the farmer gets its amount according to it produce on the bases of APMC pricing ie Beetroot Bitter Gourd, Brinjal, Broccoli, Cabbage, Capsicum, Carrot, Cauliflower, Colocasia/Arvi, Coriander Leaves, Cucumber, French Beans, Garlic, Ginger, Green Chillies, Green Peas, Lady Finger, Lemon, Methi, Mint Leaves, Onion, Palak, Potato, Pumpkin, Radish, Raw Banana, Sweet Corn, Tinda, Tomato, Zucchini and Jimikand on an

average for Rs1207.7, Rs.1979.6, Rs.1237.3, Rs.6710.6, Rs.1035.4, Rs2261.6, Rs.2027.9, Rs.2048.2, Rs.2197, Rs.3845.3, Rs.1586.2, Rs.3222.6, Rs.9721.4, Rs.6736.3, Rs.2465.3, Rs.4860.4, Rs.2185.0, Rs.3083.5, Rs.2064.6, Rs.1454.3, Rs.2214.5, Rs.960.1, Rs.1062.5, Rs.824.3, Rs.580.8, Rs.992.4, Rs.4908.3, Rs3231.7, Rs1742.3, Rs.1778.1 And Rs.1444.8 respectively.

Then to which the commission agent or the auctioneer who is considered as adds his commission or 6% additional to packaging and labor charge of 2% in total 8% of commission to the wholesaler and then sells his goods to the retailers at a margin of 20% and then retailers sell their goods to the customers at a margin of 35% at Rs.1565.2, Rs.2565.6, Rs.1603.5, Rs.8697.0, Rs.1341.9, Rs.2931.1, Rs.2628.1, Rs.2654.5, Rs.2848.0, Rs.4983.5, Rs.2055.7, Rs.4176.5, Rs.12599.0, Rs.8730.2, Rs.3195.0, Rs.6299.0, Rs.2831.8, Rs.3996.2, Rs.2675.7, Rs.1884.8, Rs.2870.0, Rs.1244.2, Rs.1377.0, Rs.1068.2, Rs.752.7, Rs.1286, Rs.6361.1, Rs.4188.3, Rs.2258.0, Rs.2304.4 and Rs.1872.5.

Table 3: Different Marketing Channels

Sr. No.	Particulars	Channel I	Channel II
1.	Total Marketing Cost	263.4	434.1
2.	Marketing Margin	1064.3	1804.3
3.	Marketing Efficiency	2.78	1.52
4.	Price Spread	1327.8	2238.3

Table 3 reveal that total marketing cost on an average in channel-I was Rs.263.4/quintal, price spread Rs.1327.8/quintal, marketing efficiency 2.78, total marketing cost 263.4 and total marketing margin 2.78.

The total marketing cost on an average in channel-II was Rs.434.1/quintal, total marketing margin Rs.1804.3/quintal; price spread Rs2238.3/quintal, and marketing efficiency 1.52.

Table 4: Top 4 E-Greengrocery Companies With The Vegetable Prices. (₹/QTLs)

Name	Grofers		Big Basket		Flipkart		Amazon	
	Max.	Min	Max.	Min	Max.	Min	Max	Min
Beetroot	3000	3000	9000	7000	6000	3000	7000	4000
Bitter Gourd	7000	6000	17000	14000	9000	8000	10000	6000
Brinjal	4000	4000	8000	7000	7000	5000	50000	28000
Broccoli	4000	4000	15000	12000	14000	12000	12000	9000
Cabbage	2000	2000	4000	2000	5000	1000	5000	4000
Capsicum	7000	7000	8000	7000	8000	6000	10000	7000
Carrot	4000	4000	4000	3000	7000	4000	10000	7000
Cauliflower	5000	5000	8000	4000	6000	4000	5000	5000
Colocasia/ Arvi	8000	8000	16000	10000	10000	10000	16000	14000
Coriander Lev.	5000	5000	7000	6000	20000	11000	8000	5000
Cucumber	1000	1000	4000	2000	4000	2000	10000	7000
French Beans	8000	5000	8000	5000	12000	5000	9000	9000
Garlic	17000	17000	23000	14000	43000	14000	15000	14000
Ginger	8000	8000	12000	6000	14000	7000	12000	6000
Green Chillies	8000	8000	8000	6000	12000	6000	8000	6000
Green Peas	10000	10000	12000	10000	20000	12000	10000	10000
Lady Finger	9000	9000	10000	8000	13000	10000	15000	14000
Lemon	26000	26000	31000	25000	25000	20000	23000	14000
Methi	14000	14000	20000	14000	20000	18000	18000	14000
Mint Leaves	12000	12000	11000	9000	20000	12000	28000	6000
Onion	2000	2000	3000	2000	4000	2000	5000	2000
Palak	4000	4000	5000	4000	14000	8000	20000	3000
Potato	4000	4000	2000	2000	5000	2000	4000	3000
Pumpkin	5000	5000	6000	5000	6000	5000	6000	3000
Raddish	3000	3000	5000	3000	5000	5000	5000	5000
Raw Banana	3000	3000	9000	7000	25000	20000	25000	20000
Sweet Corn	5000	5000	8000	5000	8000	7000	15000	13000

Tinda	16000	16000	13000	10000	18000	14000	9000	6000
Tomato	3000	3000	4000	3000	5000	3000	4000	3000
Zucchini	5000	5000	11000	8000	34000	12000	10000	10000
Jimikand	6000	6000	9000	7000	10000	6000	9000	7000

Table 4 Shows the top 4 companies and the pricing of vegetables listed by APMC, Delhi. Out of the 4 companies Grofers is the top company with offers good pricing compared to the other companies. Big Basket and Grofers reported a five-fold increase in demand during the initial phase of lockdown but the numbers have fallen from their peaks,

although order volumes continue to be high. Demand continues to be very strong. In May, they are growing by around 35% over April. They have scaled up on our people availability because of which, in most of the city's slots are available.

Table 5: Comparison of Sales, Net Income and Profit within Different groups of Mandis during COVID-19 Lockdown.

Particulars	Pre-Lockdown		Lockdown			Post-Lockdown						Avg Smp	
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov		Dec
Sales													
Unauthorized	16.8	16.8	10.4	10.4	10.4	14.18	14.18	14.18	14.18	15.39	15.39	15.39	14.0
Authorized	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2
Net Income													
Unauthorized	2.2	2.1	0.45	0.25	0.25	0.94	0.94	1.07	1.07	1.3	1.3	1.35	1.1
Authorized	9.45	9.45	14	14	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.9
Profit													
Unauthorized	14.6	14.6	9.95	10.15	10.15	13.24	13.24	13.11	13.11	14.09	14.09	14.04	12.9
Authorized	57.75	57.75	53.2	53.2	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.3

(1Unit =1lakh)

No. of Respondents: Unauthorized=30, Authorized Sellers=70

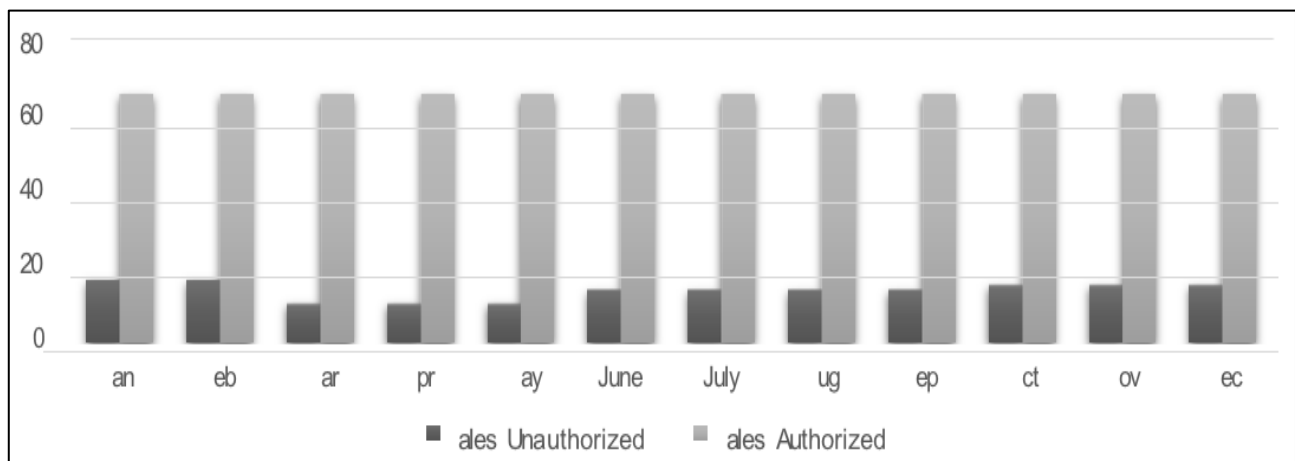


Fig 1: Comparison of sales with in different groups of mandis

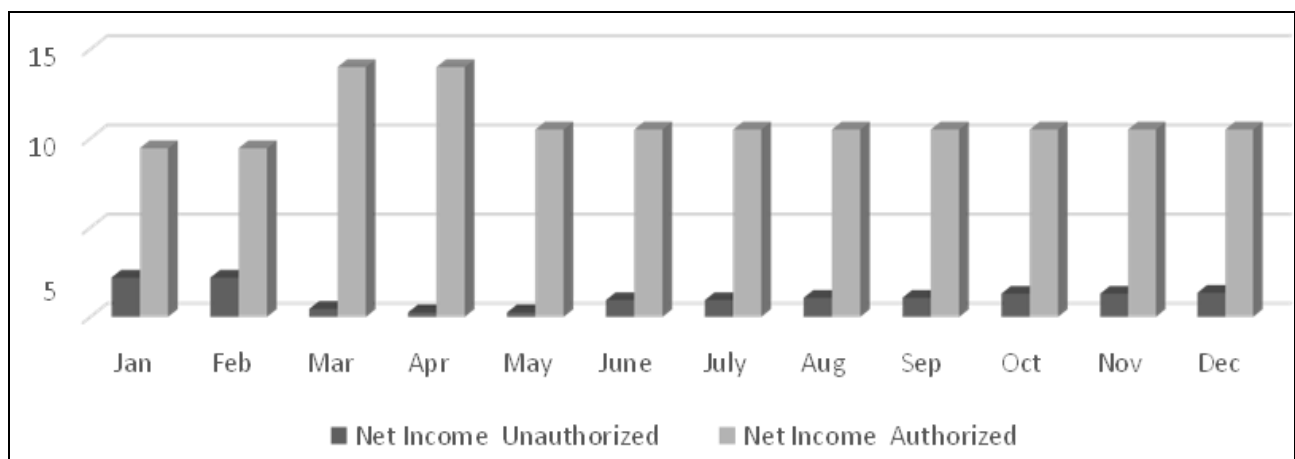


Fig 2: Comparison of net income wit in different groups of mandis

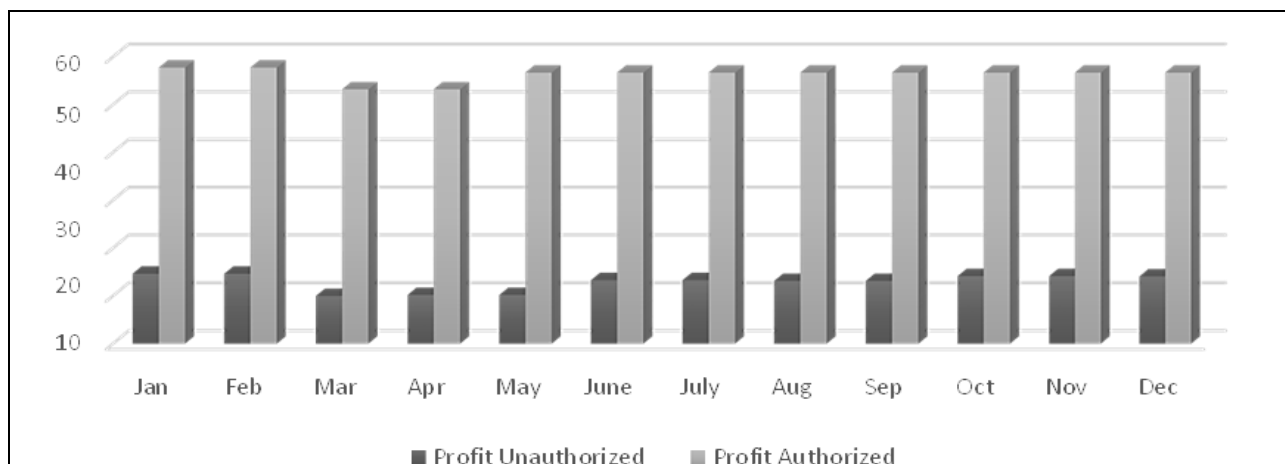


Fig 3: Comparison of profit with in different groups of mandis

We can observe from table 5 unauthorized mandi had its maximum sale during pre-lockdown that is January and February with Rs 16.8 lakhs and Rs.16.8 lakhs respectively, whereas authorized mandi were consistent with their sales throughout the year with near to Rs.67.2 lakhs. Unauthorized mandi had its maximum net income during pre-lockdown phase that is January and February with Rs 2.2 lakhs and Rs.2.1 lakhs respectively, whereas authorized mandi had its

maximum net income during lockdown phase that is March, April and May of Rs.14 lakhs, Rs.14 lakhs and Rs.10.5 lakhs respectively. Unauthorized mandi habits maximum profit during pre-lockdown phase that is January and February with Rs 14.6 lakhs and Rs.14.61 lakhs respectively, whereas authorized mandi had consistent profit throughout the year nearly Rs 56.30 lakhs average.

Table 6: Comparison customer frequency of within different groups of mandis during COVID-19 Lockdown.

Particulars	Pre- Lockdown		Lockdown			Post-Lockdown						Avg Smp	
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov		Dec
Customer frequency													
Unauthorized	79	79	29	32	41	98	109	118	109	118	114	116	87
Authorized	713	717	1143	1029	1028	529	568	531	529	491	472	472	685

(1Unit =1lakh)

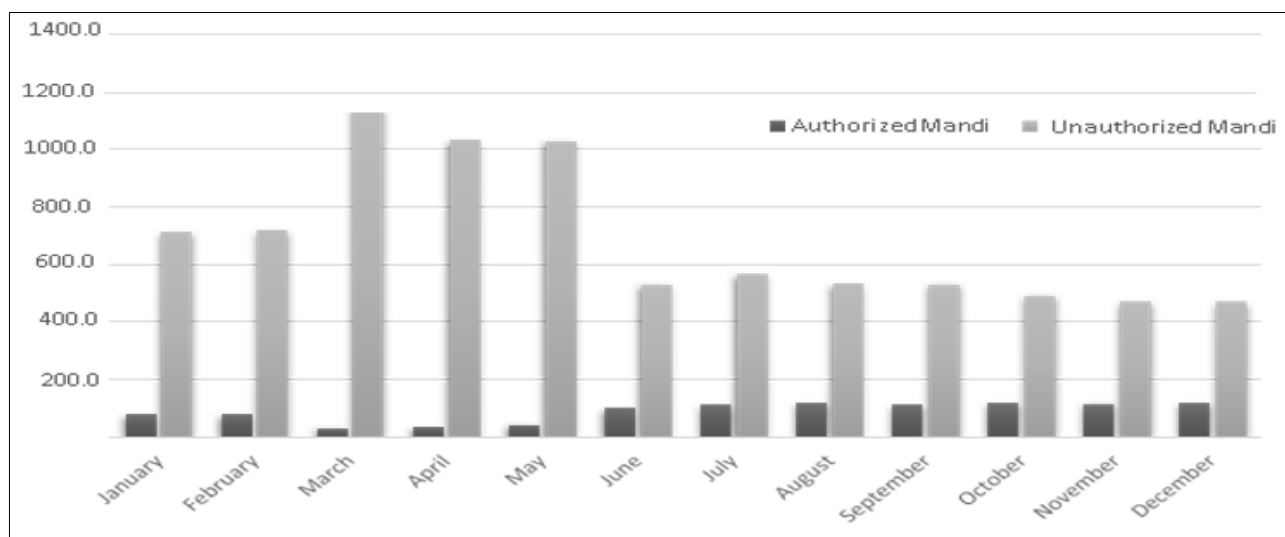


Fig 4: Customer frequency of both authorized and unauthorized mandi (Keshovpur and Sabzi Mandi)

In table 6 we can observe in unauthorized group there has been decline in the number of customers after lockdown that is from (March-December) 29, 32, 41, 98, 109,118, 109, 118, 114, 117. Wherein at authorized mandi increase during

lockdown and decrease by the end of the year that is from March - December 1143, 1029, 1028, 529, 568, 531, 529, 491, 472, 472.

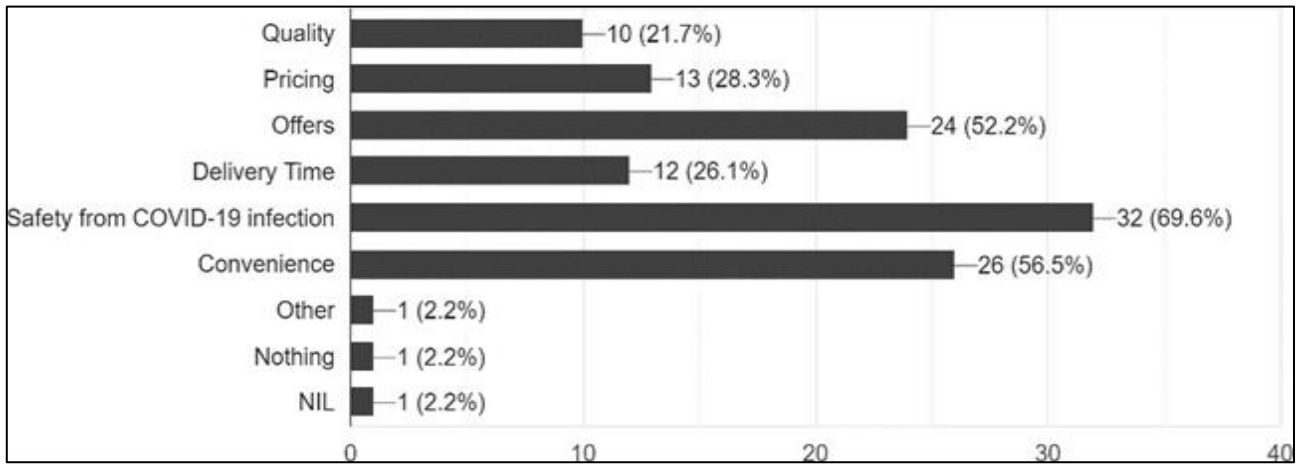


Fig 5: Graph showing quality, pricing, offers, and safety form COVID-19 infection

In above fig show the reasons of opting online groceries. Majority choose for safety from COVID-19 infection. People are considering the option of online purchasing of

greengroceries much safer from local retailers. As online purchase can reduce the Infestation of infection more than local retail shopping.

Table 7: Constraints Related to Factors Effecting the Mandis

FACTOR NO.	FACTORS	RANK
F1	HIGH COST OF INPUTS	IIX
F2	HIGH COST OF MIDDLEMEN	VI
F3	GOVERNMENT FUNCTIONING	VII
F4	LACK OF EXTENSION SERVICES	X
F5	LACK OF KNOWLEDGE	IX
F6	EFFECT OF E-COMMERCE	II
F7	EFFECT OF COVID-19	I
F8	LOW RETURNS	V
F9	DEMONETIZATION	IV
F10	INCREASE IN NO. OF SELLERS	III

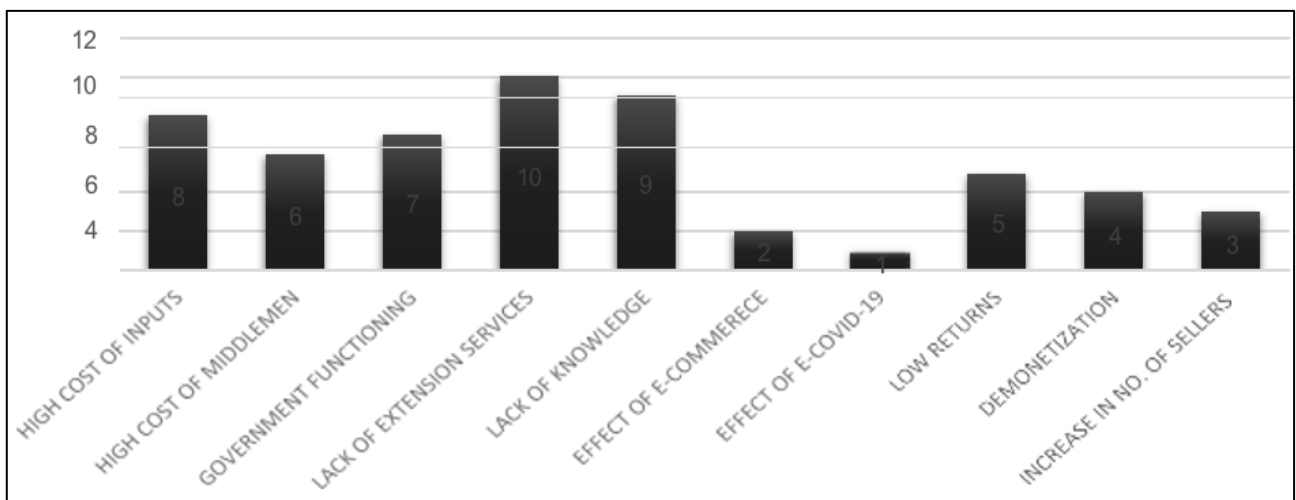


Fig 6: Graph related to factors effecting mandis

Table 7 shows the constraints faced by the Mandi retailers as a whole after the hit of COVID-19. Most the respondents expressed that major constraint was identified as effect of COVID-19 awarded as rank(I). Covid- 19 as highest followed by effect of e-commerce as they are growing at a higher rate ranked as (II), then Increases in number of retailers or sellers during pandemic majority of people shifted to vegetable selling which has become a major constraint and ranked as (III).Followed by increased number of seller is demonetization which has caused less use of in hand cash and

more of electronic medium which is ranked as(IV), after which comes low returns due to demonetization, Lockdown, middlemen they are getting low returns ranked as (VI). After which is Government functioning no schemes no check of middlemen which is ranked as (VII). High cost of input due to increase expenses and middlemen commission the rank for high input charges is (IIX), followed by lack of knowledge regarding market prices commission prices digitalization useso this is ranked as (IX), lastly lack of extension workers ranked as (X).

Conclusions

According to the above data we can see the difference in sales, income, customer frequency an Authorized and an Unauthorized mandis has faced during the times of COVID-19. We can see the decline in each aspect in both the groups but majorly effected are the unauthorized mandis which are your local retailers, who have gone through a lot of decline many aspects after lockdown due to several reasons. And various reasons for opting for online services to buy greengroceries is been described and showed in the above results. From table 1 and 2 we can see the prices offered by the offline retailers and from table 4 we can compare the prices difference we get from the online platform like grofers, amazon, flipkart and big basket. Still people are preferring to buy vegetable from online medium. Which has to be considered by both the customers and the sellers.

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