

Is Direct Marketing of Perishables a Feasible Option for Farmers?

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Abstract

Due to perishable nature, seasonal produce and bulkiness nature of fruits and vegetables, its marketing is complicated. Selling the produce directly to the consumer helps producer to get higher percentage of consumer's share and get higher return per unit sold. But producers don't want to take risk due to perishable nature of the crops, price fluctuation, small quantity of produce, storage of leftover produce, labour intensive and financial burden etc., producers are reluctant to get involved in direct marketing of fruits and vegetables. To encourage producers for direct marketing government can create farmers' cooperatives which can help farmers in marketing of their produce. In public sector, collection centres could be formed at village level/ block level/ at a cluster of villages where produce could be assembled, value addition may also be done and further could be distributed from there to different locations for direct marketing or processing. Also, during slack period, surplus labour could be used to enhance the value of the produce by proper grading, processing and packaging and could be shifted from production to marketing of the produce along with value addition.

Keywords: Direct marketing, Fruits, Vegetables, Marketing models, Perishability, Intermediaries.

JEL Classification: D27, G14, M31, Q13

Introduction

Marketing is as critical to better perform in agriculture as production itself. To get maximum returns from any farming enterprise, decisions like identifying the most profitable crops for production, delivery of the produce to the consumer efficiently and economically are the factors which determine the success of marketing (Hall 2002). Fruits and vegetables are assumed as high value products (Mavi *et al* 2012) but due to perishable nature, seasonality and bulkiness nature of fruits and vegetables, marketing become complicated. Therefore, marketing reforms ought to be an integral part of any policy for agricultural development. Mostly farmers prefer to sell their produce through middlemen like pre harvest contractors, commission agents, wholesalers, retailers, etc. to reduce the marketing risks which includes post-harvest losses, wastage and marketing cost. The adoption of different marketing channels depends on the land holding size of the farmers, climate and geographical conditions, marketable surplus, infrastructural facilities available and marketing cost (Murthy *et al* 2014). Marketing efficiency of fruits and vegetables, high and instable consumer price and less producer share in consumer rupee is the foremost concern (Ashturker and Deole 1985, Kaul 1997, Hegde and Madhuri 2013). Middlemen in the market give a poor deal to producers and

consumers without adding much value to the produce. With the involvement of middlemen in the marketing channel causes huge wastage of the produce, quality degradation accompanied by disparity in demand and supply over time and space (Subbanarasaiah 1991, Singh *et al* 1985).

There are several marketing channels exist in fruits and vegetables. But direct marketing i.e., directly from farmer to the direct consumer is the simplest and oldest marketing channel (Brooker, 1982). When producers sell their produce directly to consumers, they can sell their produce at higher price without paying for the services of middlemen. This helps them to get a higher percentage of consumer's share and get higher return per unit sold (Hall, 2002). Consumers are willing to buy produce directly from producer as quality of the produce is good if it comes directly from the farm/ also, the producers sell good quality produce as he knows that consumer has the knowledge where their food comes from so, they must adhere to a high standard for them to pursue direct marketing (Moustier and Renting 2015). But there are several issues related with direct marketing of fruits and vegetables which need to be addressed. However, farmers prefer traditional way of marketing through intermediaries, why this happens or why not farmers prefer direct marketing of agricultural produce. This paper is an attempt to understand the existing marketing models followed, constraints/ challenges of direct marketing and way forward to follow

the direct selling of perishables.

Data Sources and Methodology

The main aim to conduct the review is to understand the different scientific studies, reports, thesis, newspaper etc carried out by different researchers on different marketing models for fruits and vegetables. For this purpose, on research engine different keywords like direct marketing, supply chain, marketing models, producers' share in consumer rupee, marketing efficiency, economic analysis of marketing etc were used to search the reviews and studies. Fifteen research articles, nine newspaper articles, seven research reports, two conference papers and two unpublished theses were reviewed in all. From each collected review, marketing channels, quantity handled by these intermediaries, producers' share in consumer rupee for fruits and vegetables were studied and results were compiled accordingly.

Results and Discussion

Fruits and vegetables production in India

In India, horticulture contributes about 30.4 percent in total agricultural GDP. Fruits and vegetables are a healthy and balanced diet for us. They are good source of vitamins and minerals along with an excellent source of dietary fibre (Halder & Pati, 2011). India is the second largest producer of fruits and vegetable after China globally. Per capita fruit and vegetable availability in our country is 201.5 and 272 gram per day in year 2017-18 is far below the recommended quantity of 230 and 300 grams per capita per day (www.indiastat.com)

A huge range of varieties of fruits and vegetables can be cultivated in India due to different soil and climatic conditions in the country. Favourable agro-climatic conditions in Jammu and Kashmir, Himachal Pradesh and North-Eastern states dominant in fruit cultivation and accounts for a noteworthy share in their gross cultivated area. Though the highest area is found in Maharashtra state, but gross cropped area is maximum in Mizoram state i.e., 33.92 per cent. The productivity level varied from 2.61 to 24.72 MT per hectare with a national level of 14.99 MT per hectare. The reason behind the large variation in productivity could be different fruit varieties, climatic condition and soil structure (Annexure 1).

In India, over 10 million hectare area is under vegetable cultivation which accounts for 5.16 percent of gross cropped area in the country. The North- Eastern states like Sikkim, Mizoram, Meghalaya as well as West Bengal, Jharkhand, Odisha and Bihar reported for over 11 percent of gross cropped area whereas in other states GCA varied from 0.62 in Rajasthan to 9.92 percent in Himachal Pradesh. On the other hand, the productivity of vegetables is varied from 4.98 MT per hectare in Mizoram to 31.09 MT per hectare in Andhra Pradesh with a national average of 18.37 MT/

hectare (Annexure 2).

Present scenario of marketing of fruits and vegetables in Punjab

Dairy farmers and cereal growing farmers got well established, organised and large markets. These farmers sell their produce by themselves, by cooperatives or jointly by using already existing organizations. But fruit and vegetable growers generally finding it difficult to market their produce as these markets are not that well organised. So, majority of fruit and vegetable growers depend on market middlemen like post-harvest contractors, commission agents, wholesalers and retailers for marketing of their produce. A very less farmers market their produce directly to consumers i.e., through direct marketing. These conclusions are based on the systematic studies carried out by scholars at different locations.

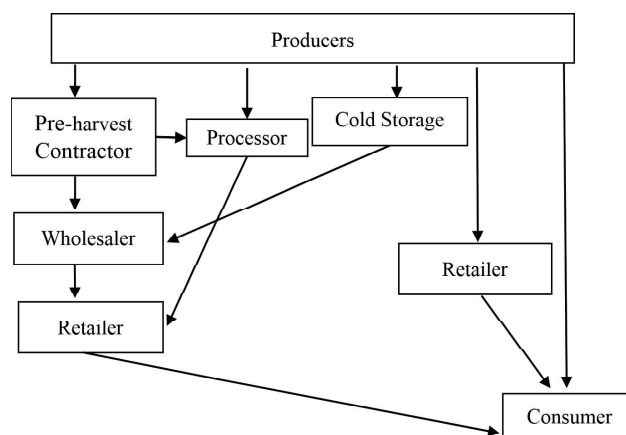


Fig. 1. Existing marketing models in fruits and vegetables

In case of fruits like kinnow, guava, mango, grape and litchi, majority of the produce is handled by preharvest contractor (Table 1). The data given in the table clearly showed that about 63 percent of the selected farmers leased out their fruit orchards to the pre-harvest contractors while about 37 percent retained it themselves (Sharma 2019, Sinha 2015, Rachana *et al* 2014, Mavi *et al* 2012). It is observed by various studies that pre-harvest contractors formed an important link in the distribution channels of fruits. To avoid the risk of theft of the fruit and other related responsibilities like picking of fruit, its grading, packing, transportation, marketing etc., consequently two third of the sample farmers leased out their fruit orchards to the contractors (Mavi *et al* 2012). The other important channel followed by the farmers for sale of their produce is through wholesalers or commission agents followed by retailers. Different studies suggest that fruits like mango, grape and litchi, producers sell very lesser amount of their produce directly to the consumers either on farm or in village and nearby markets (Chand 2010, Sinha 2011, Pokhaekar *et al* 2016 and Sharma 2019). The studies also suggested that producers' share in consumer rupee was found to be low in case where intermediaries like preharvest

Table 1. Marketing models followed in different fruits

(per cent)

| Particulars | Channels | | | | | | |
|----------------------|----------|-------|-------|-------|-------|-------|-------|
| | I | II | III | IV | V | VI | VII |
| Kinnow | | | | | | | |
| Quantity handled | 63.00 | - | 31.00 | 9.00 | - | 8.00 | - |
| PS in consumer rupee | 34.07 | - | 45.85 | 62.62 | - | 69.09 | - |
| Guava | | | | | | | |
| Quantity handled | 73.00 | - | 14.00 | 11.00 | - | 2.00 | - |
| PS in consumer rupee | 51.00 | - | 57.00 | 71.00 | - | >90.0 | - |
| Mango | | | | | | | |
| Quantity handled | 55.00 | - | - | 23.00 | - | 2.53 | 15.15 |
| PS in consumer rupee | 65.00 | - | - | 68.00 | - | 73.00 | 81.00 |
| Grape | | | | | | | |
| Quantity handled | 55.00 | - | - | 23.00 | - | 3.00 | 15.00 |
| PS in consumer rupee | 65.00 | - | - | 68.00 | - | 73.00 | 81.00 |
| Litchi | | | | | | | |
| Quantity handled | 67.00 | 18.00 | - | 5.00 | 6.00 | - | 4.00 |
| PS in consumer rupee | 44.00 | 41.00 | - | 51.00 | 48.00 | - | 66.00 |

Channel I: Producer—>Preharvest contractor—>Wholesaler (Commission Agent)—>Retailer—>Consumer

Channel II: Producer—> Preharvest contractor—>Processor—>Retailer—> Consumer

Channel III: Producer—> Wholesaler (Commission Agent)—> Retailer—> Consumer (Distant market)

Channel IV: Producer—> Wholesaler (Commission Agent)—> Retailer—> Consumer (Local market)

Channel V: Producer—> Processor—> Retailer—> Consumer

Channel VI: Producer—> Retailer (Commission Agent)—> Consumer (Local market)

Channel VII: Producer—>C (village trader) (Local market)

Source: Compiled from various studies carried out by different scholars

contractors, commission agents, wholesalers, retailers were involved. But in case of direct marketing, producers' share in consumer rupee was higher which clearly showed that direct marketing is a profitable channel from producers' point of view.

The same trend was recorded in other studies on vegetables like potato, tomato, cauliflower and carrot (Table 2). As majority of the vegetable growers prefer to sell their produce through intermediaries like wholesalers or commission agents or retailers. In case of majority of the produce viz. tomato (80%) and carrot, (85 %) percent, is sold through wholesalers and more than 20 and 14.83 percent of the produce, respectively is sold through retailers (Chand *et al* 2020). In case of potato, producer stored their produce in cold storages and then sold through wholesalers (Kumar *et al* 2009). Only 9.50 percent of vegetable growers sold their produce directly to consumers (Kumar *et al* 2020). As producers don't want to take risk due to perishable nature of the commodity as well as the market price fluctuation etc., so they avoid direct marketing of the produce. In case of producers' share in consumer rupee, it was found higher in case of direct marketing where there is no intermediary involved.

As it can be seen from the above tables that where intermediaries are involved in the marketing channels, producers' share in consumer rupee is as less as marketing cost and margins of intermediaries are distributed in the middlemen (Dhiraj *et al* 2018, Singh and Sharma 2019, Chand *et al* 2020). Where farmer is involved in direct marketing of the produce, having a larger share in consumer rupee. But farmers are selling very lesser amount of the produce directly to the consumer, resulting in lesser net return. Generally higher market margins and costs are considered to be indicators of inefficiency. Higher share of producer in consumers' rupee not necessarily an indicator of efficiency is not accompanied by higher net returns to the producer. To encourage producer for direct marketing of the produce, Government opened Apni Mandi/ farmers' market with a vision to provide exclusive marketplace for the farmers and provided kiosk/ space for the producers but gradually it was also dominated by the traders and producers were not getting reasonable prices. A study conducted by Singh (2020) on prospects of Apni mandi in Punjab, it was observed that Apni mandi is deficient in the basic services like market intelligence services, transportation of produce, storage facilities, providing counter, balance weights, loans, good

Table 2. Marketing models followed in different vegetables (per cent)

| Particulars | Channel | | | |
|----------------------|---------|-------|-------|-------|
| | I | II | III | IV |
| Potato | | | | |
| Quantity handled | 60.87 | 15.23 | 14.27 | 9.63 |
| PS in consumer rupee | 53.73 | 45 | 71.83 | 92.74 |
| Tomato | | | | |
| Quantity handled | 80.00 | - | 20.00 | - |
| PS in consumer rupee | 41.45 | - | 52.24 | - |
| Cauliflower | | | | |
| Quantity handled | 67.00 | - | 23.5 | 9.50 |
| PS in consumer rupee | 52.50 | - | 61.11 | 96.67 |
| Carrot | | | | |
| Quantity handled | 85.17 | - | 14.83 | - |
| PS in consumer rupee | 25.08 | - | 33.04 | - |

Channel I: Producer → Wholesaler (Commission agent) → Retailer → Consumer

Channel II: Producer → Cold storage → Wholesaler (Commission agent) → Retailer → Consumer

Channel III: Producer → Retailer (Commission agent) → Consumer

Channel IV: Producer → Consumer (village trader) Local market

Source: Compiled from various studies carried out by different scholars

seed, other farm input subsidies and packaging materials, etc was not provided by Marketing Committee. Because of the above stated reasons producers are not willing to adopt direct marketing.

Major challenges in direct marketing of fruits and vegetables:

There are many challenges that affect the direct marketing of fruits and vegetable. Few are stated below:

Nature of the produce: Generally, fruits and vegetables are perishable in nature and need dextrous handling along with quick disposal of the produce without deteriorating its quality. Also, consumers need various items and variety of produce in their basket which is not possible for individual producer to satisfy various requirements of consumers. From consumers' point of view, a larger variety of produce items should be offered over a longer season which can enhance their total purchases (Brooker 1982).

Sale of small quantity: A producer sells its produce through direct marketing to the fragmented consumer base. Even at a discounted price, producers are not able to sell large quantity. The frequency of farmer's market is only one or two per week, it would take months for producer to sell his entire produce to consumers which is difficult in case of perishable commodities.

Lack of storage facilities for producers: As producers can sell very small quantity every day, the left-over produce needs to be stored to keep it for long time, for which proper scientific storage facilities are required.

Labour intensive: Direct marketing of the produce is time consuming and producer has other responsibilities like taking care of children, dairy, crops and social responsibility which he needs to address as well. So, more labour is required for either direct marketing or at field.

Selling of produce at throwaway prices: Due to lack of storage facilities, stiff competition from small fruit and vegetable retailers and on bad sale day, producer has to sell its left over produce at a fraction of the price of market.

Financial burden: A producer takes loan for a crop beforehand and pay that loan amount by utilizing the income from the crop. But if a producer sells its produce through farmer's market, he sells his produce in instalment to the fragmented consumer base which dilutes the yearly income as he must pay more interest on his debt.

Imperfect communication: The fact that producers and consumers do not deal directly with one another causes some limitations up on the degree of communication. The distance between basic producer and ultimate consumers of farm products, not only in the sense of geography, but also in the farm and appearance of the produce, has made the communication less perfect. The consumer products include the addition of the marketing services of sorting and grading, transportation, refrigeration, and packaging.

All the above stated constraints are discouraging for the producer to sell produce directly to consumer. Also, their experience in farmer's market/ Apni mandi is not very encouraging. Because of that, producers are reluctant to get

involved in direct marketing of fruits and vegetables.

Conclusion and Policy Implications

There are two kinds of scenario in agriculture, firstly, there are small farmers with small land holding who are having surplus labour and secondly, higher size holding with deficit labour available. That surplus labour could be used to enhance the value of the produce by proper grading, processing and packaging. It could be shifted from production to marketing of the produce along with value addition during slack period.

Other possible solution could be linking FPOs with consumer groups empowers FPOs to sell larger amounts of produce, therefore helping to improve the logistical and economic benefits for both producers and consumers (Yousefian et al 2021). FPOs can reach consumers by diversifying their market activities and can strengthen rural urban linkages.

During lockdown period due to covid-19, many NGOs, FPOs and government agencies came together and create opportunities for direct marketing by mobile marketing, online marketing schemes, 'lockdown farmers markets' on social media etc. was created to connect producer and consumers (Abraham 2020, K R 2020a, K R 2020b, Sukhwani et al 2020, Aggarwal 2020, Joshi 2020, Karelia 2020, Kumar 2020, Narayanan and Saha 2020, Rao 2020, Wangchuk 2020). The same model can be followed to encourage direct marketing in present scenario.

Other possible solution to encourage producers for direct marketing by creating farmers' cooperatives which can help farmers in marketing of their produce. A lesson can be learned from milk cooperatives like Verka, Amul, Ananda, Mother dairy to name a few who are handling milk through their collection centres which is more perishable commodity than fruits and vegetables. If milk can be handled through cooperatives than why not fruits and vegetables. In public sector, collection centres could be formed at village level/ block level/ at a cluster of villages. The produce could be assembled at that collection centre and further could be distributed from there to different locations for direct marketing or processing etc. Value addition may also be done at those centres as well. Cooperatives are known to be the best systems in agricultural marketing (Singh et al 2008). This will be a win-win situation for producers, consumers and for society at large.

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Annexure 1. Area, production and productivity of fruits in various states in India (2019-20)

| States/UT | Area (000' Ha) | Production (000' MT) | Productivity (MT/Ha) | Area under Vegetables as % of GCA |
|-------------------|---------------------------|---------------------------------|---------------------------------|--|
| Andhra Pradesh | 708.49 | 18206 | 24.72 | 9.52 |
| Arunachal Pradesh | 48.14 | 126 | 2.61 | 15.23 |
| Assam | 168.87 | 2248 | 15.17 | 4.17 |
| Bihar | 324.58 | 4263 | 13.11 | 4.31 |
| Chhattisgarh | 225.8 | 2494 | 10.99 | 4.08 |
| Gujarat | 439.8 | 9254 | 21.04 | 3.60 |
| Haryana | 67.72 | 1198 | 17.69 | 1.03 |
| Himachal Pradesh | 232.14 | 845 | 3.57 | 25.32 |
| Jammu & Kashmir | 330.96 | 2549 | 7.68 | 28.41 |
| Jharkhand | 103.54 | 1153 | 11.09 | 5.09 |
| Karnataka | 381.35 | 7083 | 18.5 | 3.18 |
| Kerala | 310.36 | 1973 | 5.58 | 12.03 |
| Madhya Pradesh | 385.69 | 7947 | 20.53 | 1.54 |
| Maharashtra | 785.13 | 11771 | 14.7 | 3.40 |
| Manipur | 47.9 | 500 | 11.02 | 10.74 |
| Meghalaya | 37.6 | 394 | 10.47 | 12.17 |
| Mizoram | 63.77 | 345 | 5.41 | 33.92 |
| Nagaland | 34.23 | 314 | 9.2 | 6.46 |
| Odisha | 316.44 | 2309 | 6.06 | 7.03 |
| Punjab | 98.73 | 2122 | 21.33 | 1.27 |
| Rajasthan | 64.67 | 1016 | 15.53 | 0.26 |
| Sikkim | 19.54 | 55 | 2.84 | 12.77 |
| Tamil Nadu | 318.17 | 5340 | 17.8 | 5.55 |
| Telangana | 179.38 | 2538 | 11.58 | 2.96 |
| Tripura | 54.72 | 566 | 10.28 | 11.24 |
| Uttar Pradesh | 491.93 | 11061 | 22.26 | 1.83 |
| Uttarakhand | 181.15 | 677 | 3.72 | 17.09 |
| West Bengal | 269.51 | 3614 | 13.41 | 2.71 |
| Others | 12.1 | 118 | 6.81 | 5.11 |
| India | 6702.37 | 102080 | 14.99 | 3.35 |

Source: www.indiastat.com and Gross Cultivated Area (GCA) computed by the authors

Annexure 2. Area, production and productivity of vegetables in various states in India (2019-20)

| States/UT | Area (000' Ha) | Production (000' MT) | Productivity (MT/Ha) | Area under Vegetables as % of GCA |
|-------------------|-------------------|-------------------------|-------------------------|--------------------------------------|
| Andhra Pradesh | 248.04 | 7456 | 31.09 | 3.33 |
| Arunachal Pradesh | 2.62 | 17 | 6.64 | 0.83 |
| Assam | 312.97 | 3572 | 11.74 | 7.74 |
| Bihar | 821.5 | 16327 | 19.88 | 10.92 |
| Chhattisgarh | 507.03 | 7178 | 13.98 | 9.15 |
| Gujarat | 650.67 | 12877 | 20.22 | 5.32 |
| Haryana | 384.09 | 6402 | 15.92 | 5.86 |
| Himachal Pradesh | 90.94 | 1857 | 20.42 | 9.92 |
| Jammu & Kashmir | 60.12 | 1337 | 22.24 | 5.16 |
| Jharkhand | 298.71 | 3595 | 11.97 | 14.69 |
| Karnataka | 381.27 | 6813 | 19.72 | 3.18 |
| Kerala | 93.08 | 2861 | 29.62 | 3.61 |
| Madhya Pradesh | 1007.86 | 19845 | 19.68 | 4.01 |
| Maharashtra | 801.89 | 14126 | 17.01 | 3.47 |
| Manipur | 36.84 | 363 | 10.62 | 8.26 |
| Meghalaya | 49.12 | 516 | 10.50 | 15.90 |
| Mizoram | 36.49 | 188 | 4.98 | 19.41 |
| Nagaland | 40.85 | 454 | 11.11 | 7.71 |
| Odisha | 587.58 | 8494 | 13.51 | 13.05 |
| Punjab | 264.59 | 5555 | 20.93 | 3.40 |
| Rajasthan | 173.70 | 1910 | 10.81 | 0.69 |
| Sikkim | 38.80 | 231 | 5.96 | 25.36 |
| Tamil Nadu | 374.46 | 7476 | 23.84 | 6.54 |
| Telangana | 121.82 | 2274 | 17.47 | 2.01 |
| Tripura | 46.42 | 813 | 17.49 | 9.53 |
| Uttar Pradesh | 1247.63 | 26200 | 21.00 | 4.64 |
| Uttarakhand | 98.12 | 1022 | 10.38 | 9.26 |
| West Bengal | 1501.07 | 28030 | 18.73 | 15.09 |
| Others | 38.06 | 494 | 14.06 | 16.06 |
| India | 10316.34 | 188284 | 18.37 | 5.16 |

Source: www.indiastat.com and Gross Cultivated Area (GCA) computed by the authors