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# A study on price spread and marketing efficiency of sweet orange in Marathwada region

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### Abstract
Sweet orange is one of the most important fruit crop in Marathwada region of Maharashtra State. The study aimed to identify the marketing channels, price spread, Marketing cost, marketing margin and marketing efficiency for sweet orange. About 160 farmers were selected from Aurangabad and Jalna district of Marathwada region to form the sample, 30 market intermediaries including pre-harvest contractors, wholesalers and retailers. Four marketing channels were identified. Fifty one per cent of the farmers sold their produce to wholesalers and pre-harvest contractors. Marketing cost was low in channel-I compared to all other channels and channel-I was more efficient than other channels.

**Keywords:** Marketing cost, sweet orange, price spread and marketing efficiency

### Introduction
According to final figures for the 2016-17 crop year, production of vegetables recorded higher percentage increases as compared to fruits. The fruits recorded nearly an increase of 5 per cent as compared to previous year. Horticulture accounts for about 30% of India's agricultural GDP from 13.08% of cropped area. Share of horticulture in agricultural production was more than 33%. During 2016-17, the production of horticulture crops was about 3, 00, 634 Thousand Mt from an area of 24,851 thousand ha. After vegetables, fruits are on second position of the area and production of horticultural crops. Citrus crops sharing 33.58 per cent from total production of fruits (source: NHB). Maharashtra has area of 54.878 Thousand hectare with production 4068.38 thousand metric tons. In Marathwada region the total sweet orange area is 40.267 thousand hectare. Out of which Aurangabad having highest area under sweet orange crop i.e. 21.475 thousand ha and Jalna ranks second in area of sweet orange crop is 14.342 thousand ha (Source: HAPIS).

Common feature of our agriculture is that much attention has been given, after independence, on production side of various field crops which includes invention of new varieties and evolution of improved horticultural practices, etc. This has resulted into increase in yield of various crops. It is also well known that the farmers are always interested in maximizing their profit and not merely production. Since it is evident that the minimization of cost being one way of maximizing profits, the other being obtaining highest possible market price through proper marketing. Though the scientific marketing plays an important role in the present days of complex commercial fork, unfortunately as due to lack of proper knowledge and understanding of the problems, the same has not been fully appreciated by the growers. The problem is more acute particularly in the case of orange growers of Marathwada region. Now it is the time to pay equal attention to this important aspect of orange marketing. It should be the effort to treat orange marketing as a commercial activity rather than a simple earning activity of the growers.

### Methodology
The present study is based on both primary and secondary data sources. The survey method of economic investigation was adopted for the primary data collection. A specially designed schedule for getting the information on cost of cultivation, financial feasibility and other related aspects was used. Cross sectional data were collected from the sampled sweet orange growers and market intermediaries by personal interview method with the help of pre-tested schedule. Data pertained for the year 2016-17.

Market cost and market margin was worked out from actual data collected from market intermediaries marketing cost incurred by the producers was estimated from the data collected from selected cultivators for the present study.

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It consist marketable surplus, marketed surplus, different marketing channels of selected sweet orange growers, intermediaries, marketing margin, marketing costs and price spread.

## Marketable surplus
The marketable surplus is that quantity of the produce which can be made available to the non-farm population of the country. In other words the marketable surplus is the residual left with the producers/farmers after meeting his requirements for the family consumption, gift to his friends and relatives, farm needs, feed for cattle, payment to labours in kind.

## Marketed surplus
Marketed surplus is that quantity of the produce which the producer/ farmer actually sells in the market, irrespective of his requirements for family consumption, farm needs and other payments. The marketed surplus may be more, less or equal to the marketable surplus.

## Marketing channels
It consists of various agencies which perform the different marketing function in sequence to move the produce from the place of production to ultimate consumer. Following three main marketing channels were found for marketing of sweet orange in the area.
Channel I: (Producer - Consumer)
Channel II: (Producer – Wholesaler – Retailer - Consumer)
Channel III: (Producer–Pre harvest contracto-Wholesaler-Retailer –Consumer)

## Marketing cost
It is the actual expenses required in bringing goods and services from the point of production to the point of consumption. Marketing cost may be computed as follows,

$$C = CF + C\,m_i + Cm_2 + Cm_3 + \ldots + Cm_n$$

Where,
C = Total cost of marketing of the commodity
CF = Cost paid by the producer from the time produce leaves the farm till he sells it
$Cm_i$ = Cost incurred by the $i^{th}$ middlemen in the process of buying and selling the product
$Cm_n$ = Cost incurred by $n^{th}$ middlemen

## Gross margin

$$M = Si – Pi$$

Where,
M = Gross margin
Si = sale value of produce for $i^{th}$ middlemen
Pi = Purchase value for $i^{th}$ middlemen

## Net margin of market functionaries

$$Nmi = Pri – (Ppi + Cmi)$$

Where,
Nmi = Net margin of $i^{th}$ type of market middlemen
Pri = Total value of receipt per unit (sale price)
Ppi = Per unit purchase price of produce by the $i^{th}$ middlemen

Cmi = Cost incurred by $i^{th}$ middlemen

## Producer's price

$$Pf = P_A – C_F$$

Where,
Pf = Net price received by the farmer
$P_A$ = Wholesale price
$C_F$ = Marketing cost incurred by the farmer

## Price spread
Price spread of the produce show the difference between net price received by the producer in the assembling market and price paid by ultimate consumer to produce in the retail market. It includes all the market charges incurred by producer, wholesaler and retailer as well as profit margin at wholesaler and retailer.

## Marketing efficiency

$$\text{Marketing efficiency} = \frac{\text{Net price received by farmer}}{(\text{Total marketing cost} + \text{total marketing margin})}$$

## Results and Discussion
In the study area, following three important marketing channels were identified in marketing of sweet orange in different markets.
Channel- I (Producer – Consumer)
Channel –II (Producer – Wholesaler – Retailer- Consumer)
Channel –III (Producer – Pre harvest contractor– Wholesaler – Retailer- Consumer)

**In channel I:** the producer sold the produce to the direct consumer who arrived to the sweet orange orchard. About 0.50 per cent of sweet orange sold through this channel.

**In channel- II:** the producer himself brought the produce to the market and sold through wholesaler. The wholesaler acts as a mediator between producer seller and retailer. For the service, he charges 10 per cent commission of total value of produce marketed. About 21.70 per cent of the total produce sold through this channel.

**In channel III:** farmers in the study area sold the produce to the directly to pre harvest contractor (which are may be act as wholesaler or exporter). Pre harvest-contractor himself arrives to the sweet orange orchard to buy the whole orchard for a season. Sometimes pre harvest contractor act as a mediator between producer and wholesaler or retailer. About 69.02 per cent of sweet orange sold through this channel.

## Price spread in sweet orange marketing
Sweet orange was marketed through various intermediaries starting from the producer to the ultimate consumers. The intermediaries involved rendered a variety of services in the process of marketing of sweet orange with a view to earn some profit. The margins of intermediaries can act as an indicator of the efficiency of the marketing system. In channel- I, producer was directly selling his produce to consumer, while in channel- II, wholesaler and retailer were two intermediaries. But in channel-III pre-harvest contractor was one intermediary, producer was directly selling his produce or orchard to pre-harvest contractor. Per ton

marketing cost, marketing margin and price spread in sweet orange marketing with respect to different channels in the study area were calculated and presented in Table.

In channel- I, cost incurred by producer was only Rs.369.5 per ton. Price paid by consumer is Rs. 35000.00. The net price received by producer was Rs. 34630.50 and marketing efficiency is highest than channel-II and channel-III i.e. 93.72 per cent. The price spread is the difference between price paid by consumer and price received by the producer for an equivalent quantity of farm or orchard produce. The price spread is Rs. 369.50 which is less than other two channels.

In channel-II, cost incurred by wholesaler and retailer was Rs.805.50 and Rs.835.00 per ton respectively. And the marketing margin of wholesaler and retailer was Rs.3194.50 per ton (7.98 per cent) and Rs.3165 per ton (7.91 per cent) respectively. The price paid by consumer was Rs.40000 per ton. This showed that share of wholesaler in consumer's rupee is quite high. While net price received by producer was Rs. 30880.00. Price spread in this channel is Rs. 9120.00. The marketing efficiency is 3.38 per cent.

In channel-III, and cost incurred by pre-harvest contractor, wholesaler and retailer was Rs. 1023.50, Rs.805.50 and Rs.835.00 per ton respectively. And the marketing margin of pre-harvest contractor, wholesaler and retailer was Rs. 7476.50, Rs. Rs.4194.50 per ton and Rs.4165.00 per ton respectively. The price paid by consumer was Rs.35000 per ton. While net price received by producer was Rs. 16350.00. Price spread in this channel is Rs. 18650.00. The marketing efficiency is 0.87 per cent.

It was observed that price spread was Rs.18650.00 per ton in channel-III followed by in channel-II Rs.9120.00 per ton and Rs.369.50 per ton in channel- I. Thus, net price received by the farmer was highest in channel-I which was Rs.34630.50 per ton followed by channel-II, Rs.30880.50 per ton and Rs.16350 per ton in channel-III. Proportionate marketing margin was higher than marketing cost in both channel- II and channel- III. In case of marketing efficiency, it was highest in channel-I (93.72 per cent), followed by channel-II (3.38 per cent) and channel-III (0.87 per cent).

**Table 1:** Price spread in sweet orange marketing (Rs/ton)

| Particulars | Channel- I | Channel- II | Channel- III |
| --- | --- | --- | --- |
| Net price received by producer | 34630.50 | 30880.00 | 16350.00 |
| | (98.94) | (77.20) | (46.71) |
| Expenses incurred by producer | 369.50 | 1119.50 | - |
| | (1.05) | (2.79) | |
| Price paid by pre harvest contractor | - | - | 16500 |
| | | | (47.14) |
| Expenses incurred by pre harvest contractor | - | - | 1023.50 |
| | | | (2.92) |
| Margin of pre harvest contractor | - | - | 7476.50 |
| | | | (21.36) |
| Price paid by wholesaler | - | 32000 | 25000 |
| | | (80.00) | (71.42) |
| Expenses incurred by wholesaler | - | 805.50 | 805.50 |
| | | (2.01) | (2.30) |
| Margin of wholesaler | - | 3194.50 | 4194.50 |
| | | (7.98) | (11.98) |
| Price paid by retailer | - | 36000 | 30000 |
| | | (90.00) | (85.71) |
| Expenses incurred by retailer | - | 835.00 | 835.00 |
| | | (2.08) | (2.38) |
| Margin of retailer | - | 3165.00 | 4165.00 |
| | | (7.91) | (11.90) |
| Price paid by consumer | 35000 | 40000 | 35000 |
| | (100) | (100) | (100) |
| Total marketing cost | 369.5 | 2760.00 | 2814.00 |
| Total marketing margin | - | 6360.00 | 15836.00 |
| Price spread (13+14) | 369.50 | 9120.00 | 18650.00 |
| Marketing efficiency | 93.72 | 3.38 | 0.87 |
| (Figures in parenthesis are percentage price spread by consumer) | | | |

## Conclusions

Per farm production of sweet orange was 11.77 tons. Sweet orange farm marketed 0.42 per cent, 18.26 per cent and 58.11 per cent sweet orange through channel-I, channel-II and channel-III respectively. At an overall level of channel III (Producer –Pre-harvest contractor–Wholesaler - Retailer – Consumer) was observed to be most popular marketing channel. Maximum cost of marketing incurred by producer was found in channel-II which is Rs. 1119.50 per ton followed by Rs 369.50 in channel-I. Pre-harvest contractor paid Rs. 1023.50 as marketing cost per ton. Maximum producer share in consumer rupee was 92.02 per cent in channel-I, 68.62 per cent in channel-II and 43.02 per cent in

channel-III. Maximum marketing efficiency observed in channel-I i.e. 93.72.

Most of the sweet orange growers (90 per cent) expressed the major problem was scarcity of labour and their high charges or wages. Irregular electricity supply, delay in payment from pre-harvest contractor (72.5 per cent), Most of the sweet orange growers (64.37 per cent) expressed the major problem in marketing was high commission charges. High transportation cost was important constraint expressed by sweet orange growers and intermediaries.

It was observed selected growers were suggested that, Increase in use of mechanization on farm, provision of electricity supply on time, pre- harvest contractor should give

payment in advance. Some suggestions given by farmers in marketing of sweet orange in that major one was the commission charges should be minimized and fixed by the government, open auction method of selling of sweet orange should be strictly followed, effective guidance of marketing by extension person and Transportation cost should minimized.

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