

GROWTH AND PERFORMANCE OF PUNJAB MANDI BOARD IN HANDLING OF FRUITS AND VEGETABLES

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ABSTRACT: The present study is an attempt to assess the growth and performance of Punjab Mandi Board in handling of fruits and vegetables. The stratified random sampling technique was used to select markets based on volume of market arrivals. The secondary data on various parameters such as market arrivals, market fee, income, expenditure, etc were collected from the headquarters of Punjab Mandi Board and the selected market committees. The study indicated that share of fruits and vegetables to total market arrivals showed erratic trend and increased from 6.69 to 8.84 percent over the years. The annual compound growth for the market fees was 9.32, 13.31 and 8.03 of small, medium and large market respectively. The real investment of Punjab Mandi Board on development of mandis and market yard and investment at current price have declined, while in case of link road and grading, the real investment increased but fluctuated over the period.

Keywords: Fruits, Vegetables, random Sampling, growth, erratic trend and performance

Introduction

The Punjab State Agricultural Marketing Board which is now known as Punjab Mandi Board has been established in 1939 and its scope was further enlarged in 1961. The markets in the state were regulated by the Punjab Agricultural Produce Markets Act. The role of the Punjab Mandi Board is to guide, supervise and control the market committees of the State for better and efficient marketing of farm produce. There are 149 agricultural produce market committees in the state established under the Act. The board and marketing committees are local bodies as well as local authorities. Each marketing committee has a principal market yard, one or more submarket yards and other seasonal purchase centers required for marketing of agricultural produce. Presently about 1750 mandies are operating in Punjab for marketing of wheat and paddy. Farmers need not move beyond 8 kilometers to disposal of their agricultural produce. In many locations for fresh fruits and vegetables regulated markets is the first destination. Growers send their produce daily to these markets for sale and traders and retailers buy them for the consumers. Fruits and vegetables arriving from far off places follow different marketing systems. It was also found that the regulated markets benefited farmers in proportion to the effectiveness with which market committees supervise the trading of fruits and vegetable marketing. These findings advocate effective implementation of regulatory measures, improved market infrastructure, and dissemination of market information that could not only improve the marketing of fruits and vegetables but also the share of producers' in consumers' rupee (Gandhi and Nambodiri, 2002).

Keeping this in view, the present study was undertaken to examine the growth and performance of Punjab Mandi Board and its market committees in handling of fruits and vegetables.

Methodology

(i) Selection of the market committees

The present study was conducted in Punjab during 2011-12. There were 20 regulated markets which were dealing with sale and purchase of fruits and vegetables in Punjab. In order to draw a representative sample these regulated fruits and vegetables markets were categorized into three strata namely small, medium and large on the basis of market arrivals of fruits and vegetables during the triennium ending 2011-12 by using the Cumulative Cube Root Frequency Method.

Table1: Selected market committees relating to fruits and vegetables in Punjab

Market arrival (Lakh q)	Markets category	Sample District	Sample market
Up to 8.59	Small	Faridkot	Jaitu
8.59 to 17.18	Medium	Bathinda	Rampura Phul
17.18 and above	Large	Ludhiana	Ludhiana

One market from each category relating to fruits and vegetables was chosen at random thus, making a total sample of three markets. The detail is provided in Table 1.

(ii) Data collection

The secondary data on market arrivals, market fees, income, expenditure, etc. were collected from the headquarters of Punjab Mandi Board, Chandigarh and from the offices of the selected market committees.

(iii) Analytical frame work

To study the growth and performance of Punjab Mandi Board and the selected market committees. To examine growth and performance percentage share of fruits and vegetables to total market arrivals, market fees per quintal, relative change in real term for the amount spend on development of mandis and market yard by Punjab mandi board and compound growth rate were worked out and thoroughly analysed.

(iv) Percentage share of fruits and vegetables

To ascertain the performance of Punjab Mandi Board, the percentage share of fruits and vegetables were worked out.

$$\text{Percentage share of fruits and vegetables} = \frac{\text{Fruits and vegetables arrivals}}{\text{Total market arrivals}} \times 100$$

(v) Market fees collected per quintal

The market committees collect the market fee from buyers of the farm produce. It is levied at the rate of two per cent on ad-valorem basis. The market fees per unit were worked out by percentage of total market fees to the total market arrivals of fruits and vegetables during the year.

$$\text{Market fees collected per quintal} = \frac{\text{Market fees collected from fruits and vegetables}}{\text{Total market arrival of fruits and vegetables}}$$

(vi) Relative change in real term

Selected parameter values at current prices are converted to constant prices using WPI as deflation and 2004-05 as base period.

$$\text{Relative change (in real term)} = \frac{\text{Value in current period}}{\text{Value in base period}} \times 100$$

The compound growth rates (CGRs) of the market fees, trend in market fees collected of the fruits and vegetables were worked by using exponential model.

Results and Discussion

The results obtained from the analysis of data are discussed and deals with the growth and performance Punjab Mandi Board and its market committees.

Growth and performance of Punjab Mandi Board

This focuses on to study the growth and performance of Punjab Mandi Board and its market committees.

Market arrivals

The percentage share of fruits and vegetables arrivals in total market arrivals of Punjab for the year 2006-07 to 2011-12 are presented in Table 2. The perusal of Table 2 shows that on an average, the total market arrivals and fruits and vegetables arrivals was found to be 315920 and 22230 thousand quintals respectively. The fruits and vegetables constituted 7.04 per cent of the total market arrivals.

Table 2: Trend of market arrivals of fruits and vegetables in Punjab, 2006-07 to 2011-12

Year	Total market arrivals (000'q)	Fruits and vegetables arrivals (000'q)	Percentage share of fruits and vegetables
2006-07	309560	20702	6.69
2007-08	311429	22355	7.18
2008-09	325927	22124	6.79
2009-10	332055	21151	6.37
2010-11	326961	21451	6.56
2011-12	289589	25597	8.84
Overall	315920	22230	7.04

Source: Punjab Mandi Board, Chandigarh and statistical abstract of Punjab.

The highest total market arrivals were 332055 thousand quintals in 2009-10 and lowest was found to be 289589 thousand quintals in 2011-12. In the case of fruits and vegetables arrivals, the highest was recorded to be 25597 thousand quintals in 2011-12 and lowest in 2006-07 (20702 thousand quintals). The highest percentage share of fruits and vegetables to the total market arrival was 8.84 per cent in 2011-12 and 6.37 per cent was lowest share in 2009-10.

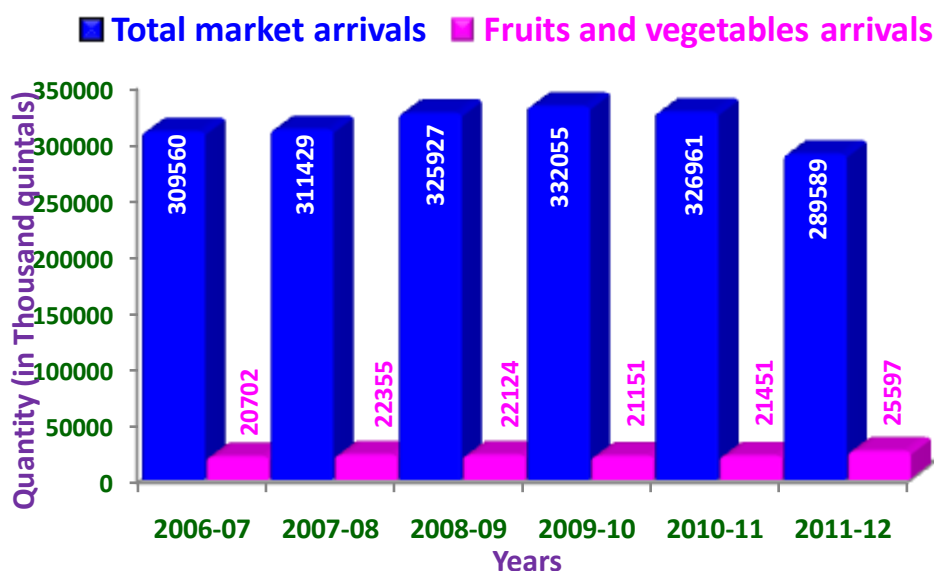


Fig 1: Trend in market arrivals of fruits and vegetables to total market arrivals in Punjab

This clearly shows that percentage share of fruits and vegetables to total market arrivals increased from 6.69 to 8.84 but showing fluctuation trend over the year. It is clear from figure 1 that total market arrival in Punjab mandi showed an increasing trend of fruits and vegetables arrival but also showing erratic trend over the years. This happened due to variation in production and productivity of fruit and vegetables in the state.

Market fees

The market fees collected by the selected fruits and vegetables markets in Punjab for the year 2001-02 to 2011-12 are presented in Table 3. The perusal of Table 3 shows that market fee had an increasing trend from 2001-02 to 2005-06 in small market. The figures came out to be `206.19, `236.86, `242.07, `296.85 and `450.94 thousand from year 2001-02 to 2005-06. Further, the market fees decreased to `354.44 thousand in year 2006-07. In the next three year the market fees showed an increasing trend. The figures for the market fees were `534.09, `608.24 and `667.15 thousand from year 2007-08 to 2009-10.

Table 3: Market fees collected by the selected fruits and vegetables markets in Punjab, 2001-02 to 2011-12

Year	Fruits and vegetables markets (000' `)			Punjab Mandi board (` Million)
	Small	Medium	Large	
2001-02	206.19	707.23	30826.85	160.90
2002-03	236.86	858.43	34220.33	186.20
2003-04	242.07	972.42	34805.53	193.30
2004-05	296.85	1091.37	35533.73	197.80
2005-06	450.94	1678.85	42687.72	284.30
2006-07	354.44	1519.33	44103.57	285.20
2007-08	534.09	1533.35	47336.22	298.70
2008-09	608.24	1779.67	48780.36	313.20
2009-10	667.15	2275.31	55147.67	355.50
2010-11	463.20	2485.75	63436.82	404.90
2011-12	337.83	2373.48	67404.34	511.94
ACGRs (%)	9.32* (2.96)	13.31* (1.24)	8.03* (0.44)	11.21* (0.85)

Source: Records of the respective Market Committees and Punjab Mandi Board,

* Significant at one percent level

The market fees declined from `463.20 to `337.83 thousand in year 2010-11 and 2011-12 in small market. The volume of market fee has increased at a compound growth of 9.32 per cent which was statistically significant. In medium market first five years the market fees showed an increasing trend. The figures came out to be `707.23, `848.43, `972.42, `1091.37 and `1678.85 thousand from year 2001-02 to 2005-06. The market fees declined to `1519.33 thousand in year 2006-07. The next four years market fees increased. The figures were estimated to be `1533.35, `1779.67, `2275.31 and `2485.75 thousand from year 2007-08 to 2010-11. The market fees fell to `2373.48 thousand in year 2011-12. The compound growth rate of market fee was 13.31 per cent per annum in medium market, which was statistically significant. In the case of large market, the market fees showed an increasing trend. The figures came out to be `30826.85, `34220.33, `34805.53, `35533.73, `42687.72, `44103.57, `47336.22, `48780.36, `55147.67, `63436.82 and `67404.34 thousand from year 2001-02 till to the end year 2011-12. In the case of Punjab Mandi Board the market fee from fruits and vegetables markets has increased over the period. The figures were `160.90, `186.20, `193.30, `197.80, `284.30, `285.20, `298.70, `313.20, `355.50, `404.90, `511.94 million from 2001-02 to 2011-12. The compound growth rate was estimated to be 11.21 per cent per annum which was statistically significant. The compound growth rate was 8.30 which were statistically significant. This clearly shows that fluctuation was recorded in market fees collected in small and medium market but had an increasing trend in large market and collected market fees of Punjab Mandi Board had also increased over time. The growth rate of Punjab Mandi Board and the selected markets were positive and also significant but market fees were higher in the case of medium and large market as compared to small market due to increase in prices and market arrivals of fruits and vegetables in these markets.

Trend in market fees collected per quintal

The trend in market fees collected per quintal for fruits and vegetables for the year 2001-03 to 2011-12 are presented in Table 4. It is evident from Table 4 that the market fees accrued per quintal showed an increasing trend from 2002-03 to 2007-08 in small market. The figures came out to be `4.60, `4.73, `5.91, `7.33, `9.10 and `10.54 per quintals respectively. Further, the market fees accrued per quintal decreased to `8.65 per quintals in year 2008-09. The results revealed that in next two years the market fees accrued per quintal increased. The figure for the market fees collected was `12.20 and `12.92 per quintal in 2009-10 to 2010-11.

Table 4: Trend in market fees collected in Punjab, 2002-03 to 2011-12

(` per quintal)

Year	Fruits and vegetables markets		
	Small	Medium	Large
2002-03	4.60	9.71	10.25
2003-04	4.73	16.07	10.32
2004-05	5.91	13.05	11.29
2005-06	7.33	15.72	11.85
2006-07	9.10	12.55	14.08
2007-08	10.54	14.33	15.07
2008-09	8.65	14.18	15.76
2009-10	12.20	15.91	18.17
2010-11	12.92	16.03	19.27
2011-12	12.33	17.75	18.84
ACGRs (%)	13.01* (8.22)	3.85** (2.45)	8.30* (14.97)

Source: Records of the respective market committees.

*and ** Significant at one and five percent.

The market fees accrued decreased to `12.33 per quintal in year 2011-12. The compound growth rate was estimated to be 13.01 per cent in small market, which was statistically significant. In medium market the market fees collected per quintal showed a different trend from 2002-03 to 2007-08 While, in one period the market fees had an increasing trend and in other period it

showed decreasing trend. The figures came out to be `9.71, `16.07, `13.05, `15.72, `12.55, `14.33 and `14.18 per quintal from year 2002-03 to 2008-09. The results revealed that the market fees per quintal showed an increasing trend in the last three years. The figure for medium market was estimated to be `15.91, `16.03 and `17.75 per quintal from year 2009-10 to 2011-12. The compound growth rate of market fee was estimated to be 3.85 per cent, which was statistically significant. In the case of large market it showed an increasing trend from the starting year till to the year 2010-11. The figures for large market were estimated to be `10.25, `10.32, `11.29, `11.85, `14.08, `15.07, `15.76, `15.76, `18.17 and `19.27 per quintal from year 2002-03 to 2010-11.

This clearly shows that market fees per quintal had increased over time in large market but fluctuation was recorded in small and medium markets. The rate of market fee collected was same that is two per cent which is on ad-valorem basis but due to increase in prices and market arrivals of fruits and vegetables, the trend in market fee collected was higher in medium and large markets as compared to small market.

Amount spend on development of mandis and market yard by Punjab Mandi Board

The amount Invested on development of mandis and market yards by Punjab Mandi Board for the year 2001-02 to 2011-12 are presented in Table 5. It is evident from Table 5 that the Punjab Mandi Board has expended for the development of various developmental works. The development of mandi at constant price and at current price was `8131.45 lakhs and `10164.32 lakhs in 2008-09. The lowest spending was `2670.50 lakhs at constant price in 2011-12 while, at current price lowest (`3353.71 lakhs) was recorded in 2006-07. For the construction and repair of rural link / approach roads the highest spending at constant price was came out to be `30027.49 lakhs, the same for current price was `37534.37 lakhs in 2008-09. The lowest spending at constant price and current price was `7627.17 lakhs and at `10929.73 lakhs in 2010-11 respectively. For the development of Apni Mandi the Punjab Mandi Board expended `6.38 lakh while, at current price it came out to be `7.97 lakhs in 2008-09. The lowest spending at constant price (1.03 lakhs) and at current price (`1.15 lakhs) was recorded in 2006-07.

Table 5: Amount spend on development of mandis and market yards by Punjab Mandi Board (` in lakhs)

Particulars	Prices	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Development of mandis	Constant	3010.51	3287.82	8131.45	4280.06	2870.99	2670.5
	Current	3353.71	3833.6	10164.32	5598.32	4114.13	4168.66
Link roads	Constant	12429.39	15460.37	30027.49	19179.01	7627.17	12743.36
	Current	13846.34	18026.79	37534.37	25086.15	10929.73	19892.39
Apni mandi	Constant	1.03	3.37	6.38	3.35	3.37	3.01
	Current	1.15	3.93	7.97	4.38	4.83	4.71
Grading	Constant	-	-	93.57	282.15	6.28	139.56
	Current	-	-	116.97	369.06	9	217.85
Grant to weaker market committee	Constant	-	32.19	-	11.47	18.95	13.99
	Current	-	37.54	-	15	27.16	21.85

Source: The Punjab Mandi Board, Chandigarh and office of Economic advisor, Ministry of commerce and industry, Note: WPI of 2004-05 as base period.

In the case of grading the highest spending at constant and at current value was 282.15 lakhs and `369.06 lakhs in 2009-10 respectively. The lowest amount came out to be `6.28 lakhs at constant price and at current price nine lakhs in 2010-11. The Board was also contributing seed money in case of those Market Committees, which are financially weak. The highest grant to weaker market committee at constant price was 32.19 lakhs and at current price was `37.54 lakhs in 2007-08. The lowest spending at constant price and current price was recorded `11.47 lakhs and `15 lakhs in 2009-10. From the above discussion this clearly shows that the real investment of Punjab Mandi Board on development of mandis and market yard has been declined and similar results were for investment at current value. In the case of link road and grading the real investment increased but fluctuate over the periods.

Conclusion

The percentage share of fruits and vegetables to total market arrivals increased from 6.69 to 8.84 but also showing erratic trend over the years. This happened due to variation in production and productivity of fruit and vegetables in the state. The growth was positive and also significant in Punjab Mandi Board and selected markets but the market fees were higher in case of medium and Large markets as compared to small market. The annual compound growth for the market fees was 9.32, 13.31 and 8.03 of small, medium and large market and all are statistically significant. Trend in market fees per quintal also showed an increasing trend.

The rate of market fee collection was same that is two per cent at add-valorem but due to increase in prices and arrivals of fruits and vegetables the market fee was higher in medium and large markets as compared to small market, the trend in market fees accrued per quintal was also higher in medium and large market respectively. The annual compound growth rate was 13.01, 3.85 and 8.30 per cent in small, medium and large markets which were statistically significant. The real investment of Punjab Mandi Board on development of mandi's and market yard has been declined and similar results were for investment at current price. In the case of link road and grading the real investment increased but fluctuate over the periods.

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