



## Regulated Agricultural Marketing Infrastructural Development in Punjab

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### Abstract

Agricultural regulated markets have been playing a pivotal role in the procurement of farm produce. Punjab state accounts for about six per cent of the total regulated markets in the country. With the rising agricultural production and growth of regulated marketing facilities, Punjab has become one of the leading states in development of marketing infrastructure and facilities for orderly marketing of agricultural produce. in the best interests of both producers and consumers. Basic infrastructural facilities like *pucca* auction platforms, parking, drinking water, electricity, mandi lights, internal roads, rest houses, toilets, bank and post office etc. were present in almost all the markets. Market information system was quite efficient in all the sampled markets. Thus all the markets are performing well on physical as well as financial front and the number, capacity and existing infrastructure of the regulated agricultural markets in the state comfortably meets the requirements of the increasing farm produce in the state. Nearly half of the total expenditure incurred by the Punjab State Agricultural Marketing Board during 2011-12 was for the infrastructural development in the agricultural markets. The study concluded that an efficient agricultural marketing system can be evolved by improving, strengthening and optimally utilising the existing market infrastructure in the state.

**Keywords:** Agriculture, infrastructure, regulated, market, performance

Though infrastructure is the key element of any development programme yet its role in the distribution and marketing is supreme. The availability of infrastructure affects the choice of technology to be adopted, reduces the cost of transportation, produces powerful impetus to production and also affects income distribution in favour of small and marginal farmers by raising their access to the market (Jairath, 2004). An adequate infrastructure imparts appropriate price signals leading to improved marketing efficiency (Singh *et al.* 2004). There is a significant correlation between infrastructure and socio-economic development of the society (Singh *et al.* 2009). In a study of 13 Indian states, it was found that investments in rural infrastructure lowered transportation costs, increased farmers' access to markets, and led to substantial agricultural expansion

(Binswanger, Deininger and Feder, 1993). In so far as the market infrastructure is concerned, some states like Punjab, Haryana, Tamil Nadu, Kerala and Gujarat have better infrastructural facilities whereas the states like Madhya Pradesh, Rajasthan, Bihar, Assam and West Bengal are lagging behind on this front (Deshpande and Gopalappa, 2003). Punjab has consistently been ranked first in the country on the Infrastructure Development Index. On a national average of 100, Punjab's relative infrastructure index was the highest at 186 ([www.pppinindia.com](http://www.pppinindia.com)).

The Punjab State Agricultural Marketing Board (PSAMB) was established under the Agricultural Produce Markets Committee (APMC) Act, 1939 to guide, supervise and control the market committees. The PSAMB not only creates market infrastructure, but also

provides financial assistance to the economically weaker market committees of the state from the Market Development Fund. Although, the marketing system in Punjab has improved with the enactment of this act, yet much is desired to realise the optimum utilisation of existing infrastructure so that an efficient agricultural marketing system can be evolved in the state. In this backdrop, the present study was undertaken to examine the status and performance of existing infrastructure in the regulated agricultural markets in Punjab.

## Methodology

All the agricultural markets of the state are classified in five income categories i.e. S, A, B, C and D classes by PSAMB. All those markets which have annual income more than ₹ 4 crores are included in the S (super) class while those with income level between ₹ 3 to 4 crores, ₹ 2 to 3 crores, ₹ 1 to 2 crores and less than one crore includes the A, B, C and D class of markets, respectively. For the present study, 3 markets from S category of markets, 2 markets each from A, B and C and one market from D income category were randomly selected (Table

1). In this way, a total number of 10 regulated agricultural markets were chosen for the study. Detailed information on market arrival, geographical area, financial position and amenities available in these agricultural produce markets were collected through personal visit to the office of Executive Officer, market committees during the year 2012-13. However, secondary data was also collected from a number of reference books, State Government publications especially Statistical Abstract of Punjab and published documents and unpublished information from the office of PSAMB, Chandigarh.

## Results and Discussion

### Present Status of Agricultural Marketing Infrastructure in Punjab

The growth of infrastructural facilities influences the overall socio-economic development of the society. In Punjab, there has been a significant growth in the infrastructural facilities required for orderly marketing of agricultural produce. The state of Punjab though geographically small, has a large number of regulated

**Table 1: Sampling Design of the Study**

Classification of markets (Income classes)	No. of markets	No. of sampled markets	Name of sampled markets
S class	67	3	Ludhiana Malerkotla Rampuraphul
A class	30	2	Attari Bariwala
B class	23	2	Phillaur Garhshankar
C class	22	2	Bilga Morinda
D class	6	1	Derabassi
<b>Total no. of markets</b>	<b>149</b>	<b>10</b>	<b>10</b>

**Table 2. Growth of Agricultural Marketing Infrastructure in Punjab**

Year	No. of regulated markets	No. of sub-yards	Av. No. of villages served by regulated market and sub-yards	Av. Area served per regulated market (Sq. Km)	Capacity of state warehouses (Lakh tonnes)	Road length per 100 sq. Km. of area (km.)
1980-81	88	382	102	420	111.73	65
1985-86	130	516	94	387	117.63	83
1990-91	143	519	86	352	109.86	91
1995-96	144	519	86	350	155.49	95
1999-00	144	519	86	350	198.53	109
2000-01	144	519	86	350	251.59	109
2005-06	145	294	85	347	192.45	125
2008-09	145	294	85	347	203.50	146
2009-10	146	294	84	345	209.55	146
2010-11	146	294	84	345	226.33	207
2011-12	149	294	82	338	234.04	162

Source: GoP, Statistical Abstracts of Punjab, various issues.

**Table 3. Distribution of Selected Markets according to Period of Establishment**

Year	No. of regulated markets	No. of sub-yards	Av. No. of villages served by regulated market and sub-yards	Av. Area served per regulated market (Sq. Km)	Capacity of state warehouses (Lakh tonnes)	Road length per 100 sq. Km. of area (km.)
1985-86	130	516	94	387	117.63	83
1990-91	143	519	86	352	109.86	91
1995-96	144	519	86	350	155.49	95
1999-00	144	519	86	350	198.53	109
2000-01	144	519	86	350	251.59	109
2005-06	145	294	85	347	192.45	125
2008-09	145	294	85	347	203.50	146
2009-10	146	294	84	345	209.55	146
2010-11	146	294	84	345	226.33	207
2011-12	149	294	82	338	234.04	162

markets owing to sizable quantity of surpluses of rice and wheat. It accounts for about six per cent of the total regulated markets in the country. The Punjab state has 443 regulated agricultural markets which include 149 principal markets and 294 sub-market yards (2011-12). On account of sizeable increase in the number of regulated markets, the number of villages served per regulated market in the state decreased to 84 in 2011-12 from 102 in 1980-81 (Table 2).

Similarly, average area served per principal regulated market also declined from 420 sq. km to 338 sq. km during the same time period. This has resulted into considerable saving in time and money of the farmers in marketing their agricultural produce. With the increase in volume of production and market arrivals, the storage capacity of state owned warehouses improved significantly from 111.73 lakh tonnes in 1980-81 to 234.04 lakh tonnes in 2011-12.

In the state, road length per square km of area has more than doubled to 162 in 2011-12 from 65 in 1980-81 indicating wide spread development of road network. It was also found that out of 149 market committees in the state, the PSAMB looks after 27847 km village link roads

which fall under 71 market committees and the remaining 29412 km link roads which fall under 78 market committees being taken care by the Public Works Department.

#### Establishment Period of Sampled Markets

Amongst sampled markets, as much as 60 per cent of the markets got established during 1960-65 (Table 3). This happened due to enactment of APMC Act during 1961. After that, two markets were established during 1970-75 and one market each came into existence during 1980-85 and 1990-95.

#### Geographical Area Covered by the Sampled Markets

Categorization of different selected markets was also done from the angle of geographical area covered i.e. the number of villages covered by these markets (Table 4). It was found that about 20 per cent of the markets were facilitating 20 to 40, 40 to 60, 60 to 80 and 140 to 160 villages each. Only 10 per cent of the selected markets covered as high as 302 villages and that so was in case of Garh Shankar agricultural market of Hoshiarpur district.

**Table 4. Distribution of Selected Markets according to Number of Villages Covered**

Villages covered	Market category					Sub-total	Sub-total as % to total no. of markets
	S	A	B	C	D		
20-40	1	1				2	20
40-60				1	1	2	20
60-80		1	1			2	20
80-100	1					1	10
100-120						0	0
120-140						0	0
140-160	1			1		2	20
>160*			1			1	10
Total no. of markets	3	2	2	2	1	10	100

\*Garh Shankar (Hoshiarpur) covers 302 villages.

### System of Sale, Grading, Weighing and Payment

It was found that in all the selected markets of all the five income categories, wheat and paddy procurement is made generally by the public procurement agencies at minimum support price fixed by the government of India. However, open auction system of sale of other crops was followed in which all prospective buyers gather together at shop of agent around the heap and offer bids and payment is made immediately after sale when auction is over. However,

Grading facilitates pooling of produce brought by different farmers and conducting auction on the basis of grades. For selected markets, farmers were bringing ungraded produce for sale in the market. The grading was carried out in the market by private agents i.e. commission agent or *arhtiya* but the produce was accepted as per specifications of Food Corporation of India.

It was found that open floor kanda was the most preferred method of weighing for all the markets. Other methods followed for weighing were platform scale, and computerised tir kanda for fruits and vegetables only.

In so far as system of payment followed in different markets was observed, it was seen that still *katcha arhtiya* popularly known as commission agent or *arhtiya* was a preferred middleman in all the markets. It was found that in markets under study, time involved for payment to reach *arhtiyas* was 48 hours and that to farmers was 72 hours. Although Government of Punjab has initiated direct payment system for the marketing of farm produce but still the payment through commission agents is a dominant mode of transaction.

### Availability of Basic Facilities

The availability of basic amenities required in a market is an important factor indicating its present health and future prospects. The market infrastructural facilities include main trading facilities (auction platform, drying yard), ancillary trading facilities (e.g. stores, weighing, processing and grading facilities), farmers' facilities (e.g. roads, rest houses, input shops, canteen, restaurants, toilets, fire extinguishers and garbage disposal facility), administrative facilities (like bank, post office) and others like electricity and drinking water.

For establishment and proper functioning of agricultural marketing structure, notified areas are declared which are controlled by separate market committees. The area under principal yard for selected

markets varied from 9.82 acres for Derabassi to 55 acres for Ludhiana agricultural markets (Table 5). It was also observed that the area under principal yard for the selected markets was adequate according to market arrivals and norms laid down by the Punjab Mandi Township Act, 1960.

**Table 5. Area under Principal Yard for Selected Market Committees**

Market category	Market	Area under principal yard (acres)
S	Ludhiana	55
S	Malerkotla	22
S	Rampuraphul	49.50
A	Bariwala	20
A	Attari	32
B	Phillaur	22.50
B	Garhshankar	15
C	Bilga	49
C	Morinda	35
D	Derabassi	9.82

Covered auction platforms protect produces from the natural disadvantages and facilitate assembling and selling of agricultural produce. It was found that all the selected markets had pucca auction platforms for carrying out sale of the produce in the state (Table 6). For farmers' facility, internal roads were present in all the markets. Further, input/sundry shops were also in place in all the selected markets and these were owned by commission agents only.

The facilities of rest houses were in place in four markets only, of which three belonged to S class markets and one to C class market. Canteen and restaurant were found to be existing in two and one market, respectively of S class only. Facilities of parking, toilets, drinking water, electricity, street lights as well as mandi lights were available in all the markets. Administrative facilities including availability of bank lied within 1.5 km area for 8 markets and it was more than 2 km for two markets only. Large number of markets had the facilities of post offices.

Sometimes farmers are deprived of a reasonable or remunerative price for their produce in absence of dissemination of marketing information. Office building to house the staff and equipment like computer, printer, typewriter, telephone fax machine etc. was placed in all the markets. Even five of them had double storied buildings. This shows that market information system was quite efficient in all the sampled markets.

**Table 6. Availability of Basic Infrastructural Facilities in Selected Markets**

Sl. No.	Facility/service	Market category					Total	Sub-total as % to total no. of markets
		S	A	B	C	D		
1	Pucca auction platform	3	2	2	2	1	10	100.00
2	Internal road	3	2	2	2	1	10	100.00
3	Input/sundry shop	3	2	2	2	1	10	100.00
4	Rest house for farmers	3	—	—	1	—	4	40.00
5	Canteen	2	—	—	—	—	2	20.00
6	Restaurant	1	—	—	—	—	1	10.00
7	Toilet	3	2	2	2	1	10	100.00
8	Fire extinguishers	1	—	—	—	—	1	10.00
9	Sweeping facility							0.00
10	Drinking water	3	2	2	2	1	10	100.00
11	Electricity	3	2	2	2	1	10	100.00
12	Banking facility							0.00
	Within 0.5 km	2	1	1			4	40.00
	0.5-1.5 km	1	1		2		4	40.00
	1.5-2.5 km			1			1	10.00
	>2.5 km					1	1	10.00
13	Post office facility	S	A	B	C	D		0.00
	Within 0.5 km	1		1	1		3	30.00
	0.5-1.5 km	2	2				4	40.00
	1.5-2.5 km				1		1	10.00
	>2.5 km			1		1	2	20.00
14	Market office building: Single	2		2		1	5	50.00
	Double	1	2		2		5	50.00
15	Information notice board	3	2	2	2	1	10	100.00
16	Electric notice board	2	1		2		5	50.00

All this revealed that the number, capacity and existing infrastructure of the regulated agricultural markets in the state comfortably meet the requirements of the increasing farm produce in the state.

### Physical Performance of Regulated Agricultural Markets

The physical performance of regulated agricultural markets can be observed in terms of volume of market

arrivals, area covered, system of grading, weighing and payments and basic amenities available in the market.

### Market Arrivals of Principal Crops

Corresponding to increased production, the market arrival of food grains and non-food grains has increased manifold in Punjab during the last three decades. Amongst food grains, wheat is the principal crop of the State occupying about 45% of the total cropped area.

**Table 7. Market Arrivals of Principal Crops in Selected Markets during 2012-13**

(lakh Quintals)

Market category	Market	Wheat	Paddy (including basmati)
S	Ludhiana	5.36	7.69
S	Malerkotla	8.60	16.83
S	Rampuraphul	14.71	23.83
A	Attari	8.73	5.12
A	Bariwala	6.07	9.12
B	Phillaur	5.58	7.45
B	Garhshankar	7.27	5.90
C	Bilga	4.61	5.85
C	Morinda	3.73	4.79
D	Derabassi	0.72	0.79
<b>Total</b>	<b>10</b>		

The arrivals for wheat in each market committee increased from about 50 thousand tonnes in 1980-81 to 87.61 thousand tonnes in 2012-13. Next to wheat, paddy occupies about 36% of the total cropped area of the State. The average arrival of paddy in each market committee of Punjab was just about 49 thousand tonnes and more than doubled to about 105 thousand tonnes in 2012-13.

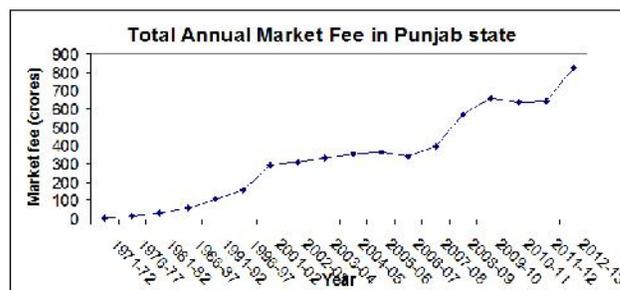
Information was also gathered regarding market arrivals of wheat, paddy and cotton for selected markets of Punjab (Table 7).

For wheat crop, the arrivals varied from 0.72 lakh quintals for Derabassi to about 15 lakh quintals for Rampuraphul during 2012-13. For paddy, the arrivals were again lowest for Derabassi being 0.79 lakh quintals and it was the maximum for Rampuraphul being 23.83 lakh quintals. All this indicated that market arrivals were the highest for the markets falling in S income category and most of these markets were in major production centres for the selected crops while these were the least for markets falling in D income category.

### Financial Performance of Regulated Agricultural Markets

The financial position of any institution plays important role in its efficiency. The market fee collected by different market committees in the state becomes the major source of income of PSAMB. The market committees collect the market fee at the rate of 2% of the value of the produce from the buyers of the farm produce and contribute some share to the PSAMB. Market fee collected in Punjab was about ₹ 33 crore in 1981-82 which increased to about ₹ 296 crore in 2001-02 and

further to about ₹ 827 crore during 2012-13. All this indicates the good economic condition of the agricultural markets in the state.



Further data relating to income and expenditure of PSAMB indicated that the major expenditure of the PSAMB during 2011-12 was on the development of market infrastructure only i.e. ₹ 24939 lakhs which alone formed about 49% of the total expenditure (Table 8).

The expenditure on construction and repair of rural link roads took away about 80% of the cost incurred on development works by the PSAMB. Another important component of expenditure of the Board has been on the development of mandis which included expenditure on the upliftment of infrastructural facilities such as providing pucca platforms, covered sheds and electricity. The Board also utilized about two per cent of its expenditure on the development schemes like, on the grading of foodgrains and oilseeds, research grant to the Punjab Agricultural University, Ludhiana, grading of fruit and vegetables, fire fighting and related equipment, data processing and computers, Apni Mandi (Farmers' Market), metallic bins and weigh bridges. These measures of the Board in the form of development

**Table 8: Income and expenditure of Punjab Mandi Board during 2011-12**

	Particulars	₹ (Lakhs)	Percentage
I	Opening balance on 1st April	12713.46	-
II	Receipts	52295.88	—
III	Total income	65009.34	—
IV	Total expenditure	51212.93	<b>100.00</b>
V	Closing balance on 31st March	13796.41	—
1	Establishment expenses	11347.55	<b>22.16</b>
2	Contingencies-recurring	704.52	<b>1.38</b>
3	Capital expenditure (purchase of new furniture, vehicles, properties and computers)	100.89	<b>0.20</b>
4	Development works	24939.46	<b>48.70</b>
A	Acquisition land and compensation	1283.01	5.14
B	Development of mandis	2885.65	11.57
C	Board's works	878.41	3.52
D	Const/repair of rural link roads	19892.39	79.76
5	Financial aid/loans	21.85	<b>0.04</b>
6	Development schemes	912.27	<b>1.78</b>
7	Miscellaneous (income tax, suspense, securities refund, term loan instalment, interest to banks)	13186.39	<b>25.75</b>

Source: Punjab State Agricultural Marketing Board, Chandigarh.

**Table 9. Market fee collected in Selected Markets of Punjab**

Market category	Market	Market fee (₹ lakhs)					
		2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
S	Ludhiana	610.20	710.99	806.37	883.10	926.33	1085.66
S	Malerkotla	425.62	603.45	705.33	665.03	698.83	705.10
S	Rampuraphul	645.02	752.96	921.43	804.75	839.17	1132.06
A	Bariwala	200.97	288.87	326.58	307.48	318.86	446.97
A	Attari	185.28	334.74	342.79	278.75	254.69	347.82
B	Phillaur	168.04	247.05	268.89	277.61	313.85	385.81
B	Garhshankar	157.08	223.86	224.36	274.06	299.11	388.88
C	Bilga	117.79	169.17	188.11	191.81	203.08	271.37
C	Morinda	84.24	139.90	151.81	153.39	142.65	249.50
D	Derabassi	21.45	40.18	41.94	57.20	44.84	56.43

schemes have brought efficiency in the marketing system and proved a boon to the farmers of the State.

Further, information was also collected relating to market fee collected in the sampled agricultural markets of the state. As the categories of markets are based on the income collected from market fee, markets falling in S income category the collected maximum market fee and it varied from about ₹ 705 crore for Malerkotla to about ₹ 1086 crore in Ludhiana market while for markets under A income category, the income from market fee was about ₹ 348 crore for Bariwala and about ₹ 447 crore for Attari market (Table 9). Further, for markets under B income category, the market fee was about ₹ 389 crore for Garhshankar and about ₹ 385 crore for Phillaur market in 2012-13.

Annual Income from market fee was ₹ 250 crore for Morinda and ₹ 271 crore for Bilga market of C income category while it was as low as ₹ 56.43 crore in D income category market namely Derabassi. Analysis of market fee collected by the selected markets for last five years indicated increase in income over the time period which again proved that the selected agricultural markets in the state were in good economic condition.

## Conclusion

Agricultural regulated markets have been playing a pivotal role in the procurement of farm produce. Punjab state accounts for about six per cent of the total regulated markets in the country. With the rising agricultural production and growth of regulated marketing facilities, Punjab has become one of the leading states in development of marketing infrastructure and facilities for orderly marketing of agricultural produce in the best interests of both producers and consumers. Basic

infrastructural facilities like *pucca* auction platforms, parking, drinking water, electricity, mandi lights, internal roads, rest houses, toilets, bank and post office etc. were present in almost all the markets. Market information system was quite efficient in all the sampled markets. Thus all the markets are performing well on physical as well as financial front and the number, capacity and existing infrastructure of the regulated agricultural markets in the state comfortably meets the requirements of the increasing farm produce in the state. Nearly half of the total expenditure incurred by the Punjab State Agricultural Marketing Board during 2011-12 was for the infrastructural development in the agricultural markets. The study concluded that an efficient agricultural marketing system can be evolved by improving, strengthening and optimally utilising the existing market infrastructure in the state.

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