Agro Economist - An International Journal
Citation: AE: **8**(01): 09-13, June 2021
**DOI:** 10.30954/2394-8159.01.2021.2

AAEBM
ASSOCIATION OF AGRICULTURAL ECONOMICS & AGRI-BUSINESS MANAGEMENT

# A Study of Marketable Surplus, Marketed Surplus and Price Spread of Basmati Rice

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**Received:** 14-03-2021 **Revised:** 27-05-2021 **Accepted:** 12-06-2021

**ABSTRACT**

Basmati is long grain aromatic rice grown for many centuries in the specific geographical area at the Himalayan foot hills of Indian sub-continent. India being the world's largest producer, contributes more than 70 per cent of the total world basmati rice production. The present study was conducted in Bishnah and R.S. Pura blocks of Jammu district of Union Territory (UT) of J&K. The study revealed that on an average per farm marketed surplus comes to 17.48 quintals, whereas it was 44.71 quintals on medium farms followed by 23.27 quintals on small farm and 10.15 quintals on marginal farms respectively. The investigation revealed that the producer share in consumers rupee was highest that is 79.10 per cent in channel-I that is producer to consumer followed by channel-Il 43.14 per cent, channel-IV 40.57 per cent and channel-Ill 39.53 per cent respectively. The channel-I that is producer to consumer was the most efficient channel with having the marketing efficiency of 3.79 followed by channel Il (3.46), channel-Ill (2.36) and channel-IV (1.68) respectively.

**Keywords**: Basmati, marketed surplus, price spread, marketing efficiency

India being the world's largest producer, contributes more than 70 per cent of the total world basmati rice production. Jammu district is mainly comprised of sub-tropical regions and one of which is considered unique to the district is the Basmati rice. In Jammu region Basmati rice is grown on more than 32,000 ha area covering Jammu, samba and Kathua district (Gupta *et al.* 2009). Basmati of Jammu region, particularly of R.S. Pura belt is world famous for its high aroma. Thus, the cultivation of Basmati rice offers a great potential. The Indian basmati and non basmati rice have exported in the world rice market during 2017-18 was 12.682 MT and during 2018-19 it was 12.067 MT, while in year 2019-20 (up to September) India export 6.296 MT basmati rice in the world market. Rice is distributed through a network of 0.477 million Fair Price Shops (FPSs) at the subsidized rate to the ration card holders under the public distribution system (Department of Agricultural, Co-operation and Farmer's Welfare, GOI, 2016). The economic benefit from basmati cultivation depends upon many factors (Vaid *et al.* 2017). Provision of credit also affects the basmati cultivation like any other crop in terms of availability of improved inputs (Dwivedi *et al.* 2015). Inefficient marketing system results in reducing the farmers' share in consumer rupee. A sufficient share of consumer rupee is deprived by intermediaries. An efficient system of marketing of rice will result in reduction of middleman profit and marketing cost thus, increasing farmer's share in consumer rupee.

**How to cite this article:** Sharma, S., Dwivedi, S., Sharma, P.K. and Sharma, S. (2021). A Study of Marketable Surplus, Marketed Surplus and Price Spread of Basmati Rice. *Agro Economist - An International Journal*, **08**(01): 09-13.

**Source of Support:** None; **Conflict of Interest:** None

## MATERIALS AND METHODS

The Bishnah and R.S. Pura block of Jammu district was selected purposively because these blocks Further, two villages from R.S. Pura block namely Gagian and Badyal Brahmana and from Bishnah block namely Chak Charkan and Salehar Upper has been selected randomly for the present study. The farmers were classified according to size of land holding in three categories i.e. marginal, small, and medium groups viz. marginal (up to 1 ha.), small (1.01- 2 ha.) and medium (2.01- 4.0 ha.). Here this is worth mentioning that no one large farmer found in the study area. The present study had been based on primary data as well as secondary data.

### Computation of market margins

It is mainly referred as difference between price paid and price received by a specific marketing agency or middlemen. Following margins were worked out:

### Absolute Margin

It is simply the difference between selling price and buying price

Absolute margin ($A_{Mi}$)

$$Ami = P_{Ri} - (P_{pi} + C_{Mi})$$

Percentage margin ($P_{Mi}$)

$$P_{Mi} = \frac{P_{Ri} - \left(P_{pi} + C_{Mi}\right)}{P_{Ri}} \times 100$$

### Marketing cost

The total cost, incurred on marketing either in cash or in kind by the producer seller and by the various intermediaries involved in the sale and purchase of the commodity trill the commodity reaches the ultimate consumer, was computed as under;

$$C = CF + C_{m1} + C_{m2} + C_{m3} + \ldots\ldots\ldots + C_{mn}$$

Where,

$C$ = Total cost of marketing of the commodity.

$C_F$ = Cost paid by the producer from the time the produce leaves the farms till he sells it.

$C_{Mi}$ = Cost incurred by the ith middle in the process of buying and selling the product.

### Price spread

It is the difference between two prices, i.e. the price paid by the consumer and the price received by the producer.

$$P = P_c - P_p$$

Where,

$P$ = price spread of the commodity

$P_c$ = price paid by the consumer

$P_p$ = price received by the farmer

### Marketing Efficiency

Market efficiency refers to the degree to which market prices reflect all available, relevant information. If markets are efficient, then all information is already incorporated into prices

The modified marketing efficiency (ME) formula is given below;

$ME = N_p/MM + MC$ (Acharya approach)

Where, $NP$ is net price received by the producers (₹/Kg)

$MM$ is the marketing margins,

$MC$ is the marketing cost.

### Marketing Margins

The margins of market intermediaries included profit and returns, which accrued to them for storage, the interest on capital and establishment after adjusting for the marketing loss due to handling. The general expression for estimating the margin for intermediaries is given below;

$$MMw = MM_{w1} + Mm_{wi} + MM_{wn}$$

where, $Mm_{wi}$ marketing margins of the $i^{th}$ wholesaler.

### Marketing Cost

The total marketing cost (MC) incurred by the producer/seller is calculated as:

MC = Loading/unloading + Transportation + Other charges (octari)

## RESULTS AND DISCUSSION

### Area, production, consumption and marketed surplus of basmati rice

Overall average per farm production of basmati rice on sample farm was 19.73 quintals from an average per farm area under this crop at 0.71 hectare (Table 1). The production on marginal, small, medium farm was 10.70, 25.74, 54.76 quintals/farm respectively. On farm and family requirements of agricultural output for different purposes viz. home consumption, farm consumption, requirement for seed, kind payments etc. determine the total quantity to be retained by the farmers. Overall on average per farm consumption of basmati rice was 1.67quintal which accounted for 5.32 per cent of the total production. The proportionate share of retention of this variety for other uses and wastage turn out to be 0.40 (0.08 q/farm) per cent of production respectively. On marginal, small, medium the quantity of basmati consumed was worked out to be 0.32, 1.61, 8.19 q/farm which accounted for 2.98, 6.25, 14.97 per cent of the total production on the respective farm size categories. The marketed surplus or the total quantity of this variety sold by marginal, small, medium farmers was worked out to be 10.15, 23.27, 44.71 quintals per farm constituting 94.86, 90.90, 81.84 per cent of the production on the respective categories of farms. The overall marketed surplus comes to 1748.12 quintals whereas it was 680.05 quintals on marginal farms, 442.13 quintals on small farms and 625.94 on medium farms respectively. The average price received by the farmers for their marketed surplus was Rs.4132.66 per quintal presented in Table 1.

### Marketable and marketed surplus of Basmati Rice

The total production of basmati rice (main product) is 1972.61 quintals whereas on marginal, small and medium farms it is 716.85 quintals, 489.05 quintals and 766.71 quintals respectively (Table 2). The total home consumption on the respective farms comes to 166.71 quintals. The home consumption comes highest i.e. 114.74 quintals on medium farms followed by 30.59 quintals on small farms and 21.38 quintals on marginal farms respectively. The close perusal of table reveals that farms size increases the consumption of basmati rice also increases. In case of wastage it occurs 7.51 quintals on total farms whereas wastage was highest on medium farms i.e. 3.22 quintals followed by small farms (2.28 quintals) and marginal farms (2.01 quintals) respectively. Gift and wages on total farms comes to 6.21 and 5.03 quintal respectively.

**Table 1:** Area, Production, Consumption and Marketed surplus of Basmati Rice (per farm)

| Farm category | Area (ha) | Production (q) | Consumed (qs) | Farm consumption | Wages | Gifted | Wastage | Sold (q) | Price (₹/q) |
|---|---|---|---|---|---|---|---|---|---|
| Marginal | 0.36 | 10.70 (100.00) | 0.32 (2.98) | 0.16 (1.50) | 0.02 (0.19) | 0.02 (0.19) | 0.03 (0.28) | 10.15 (94.86) | 3830.00 |
| Small | 0.94 | 25.74 (100.00) | 1.61 (6.25) | 0.51 (1.99) | 0.12 (0.47) | 0.11 (0.43) | 0.12 (0.47) | 23.27 (90.90) | 4020.00 |
| Medium | 2.04 | 54.76 (100.00) | 8.19 (14.97) | 1.33 (2.43) | 0.10 (0.18) | 0.20 (0.37) | 0.23 (0.42) | 44.71 (81.84) | 4260.00 |
| Average | 0.71 | 19.73 (100.00) | 1.67 (8.45) | 0.39 (1.98) | 0.06 (0.30) | 0.07 (0.35) | 0.08 (0.40) | 17.48 (88.60) | 4132.66 |

**Table 2:** Marketable and marketed surplus of Basmati Rice (in qs)

| Farm category | Production | Home Consumption | Farm consumption (seed) | Gift | Wages | Wastage | Marketable Surplus | Marketed Surplus |
|---|---|---|---|---|---|---|---|---|
| Marginal | 716.85 (100.00) | 21.38 (2.98) | 10.72 (1.49) | 1.34 (0.19) | 1.35 (0.19) | 2.01 (0.28) | 682.06 (95.14) | 680.05 (94.87) |
| Small | 489.05 (100.00) | 30.59 (6.25) | 9.69 (1.98) | 2.08 (0.43) | 2.28 (0.47) | 2.28 (0.47) | 444.41 (90.46) | 442.13 (90.40) |
| Medium | 766.71 (100.00) | 114.74 (14.97) | 18.62 (2.43) | 2.8 (0.37) | 1.4 (0.18) | 3.22 (0.42) | 629.16 (82.05) | 625.94 (81.64) |
| Total | 1972.61 (100.00) | 166.71 (8.45) | 39.03 (1.98) | 6.21 (0.31) | 5.03 (0.25) | 7.51 (0.38) | 1755.63 (89.00) | 1748.12 (88.62) |

### Marketing cost, marketing margin and price spread of basmati rice

The marketing cost, marketing margin, and price spread under four different channels of basmati rice marketing are presented in Table 3. The marketing cost paid by the farmers is ₹ 908.43 per quintal in first channel, ₹ 223.77 per quintal in second channel, ₹ 250.73 per quintal in channel III and ₹ 306.77 per quintal in channel IV. The cost of marketing paid by trader come to ₹ 114.98 per quintal in second channel ₹ 206.54 per quintal in third channel and ₹ 285.23 per quintal in IV channel. The cost of marketing paid by trader was more in channel IV i.e. ₹ 285.23 per quintal. Per quintal cost of marketing paid by wholesaler comes to ₹ 139.45 in channel-II, ₹ 217.56 in Channel-III and ₹ 266.77 in Channel-IV. The cost of marketing paid by rice miller comes to ₹ 278.64 per quintal in channel IV. Per quintal total cost of marketing of Basmati rice comes to ₹ 908.43 per quintal in Channel I, ₹ 478.20 per quintal in channel- II, ₹ 674.83 per quintal in Channel – III and ₹ 1137.41 per quintal in Channel-IV respectively. The producer price in consumer Rupee comes and ₹ 4348.05 per quintal in Channel-I followed by ₹ 4159.06 per quintal in Channel-III, ₹ 4069.86 per quintal in Channel-IV and very small amount of ₹ 3737.96 per quintal in Channel-II respectively.

### Marketing efficiency of different channels of basmati rice

Marketing efficiency is the effectiveness with which the market performs its designated function. The table 4 revealed the marketing efficiency of basmati rice marketing under four different channels identified in the present study. The marketing efficiency was estimated by using Acharya's Modified Marketing Efficiency Formula. The marketing efficiency index was found maximum in Channel-I (3.79) when Basmati rice was sold directly to consumer. When the produce was sold through intermediaries, the marketing efficiency was lower as it was 1.68 in Channel-IV, 2.36 in Channel-III and 3.46 in Channel-II.

**Table 3:** Marketing cost, marketing margin and price spread of basmati rice (₹/q)

| Particulars | Channel-I | Channel-II | Channel -III | Channel- IV |
|---|---|---|---|---|
| | ₹/q | ₹/q | ₹/q | ₹/q |
| Marketing cost (Rs.) | | | | |
| Farmer's marketing expenditure | 908.43 | 223.77 | 250.73 | 306.77 |
| Village Traders expenditure | 0.00 | 114.98 | 206.54 | 285.23 |
| Wholesalers marketing expenditure | 0.00 | 139.45 | 217.56 | 266.77 |
| Rice Miller | 0.00 | 0.00 | 0.00 | 278.64 |
| **Total cost of marketing** | **908.43** | **478.20** | **674.83** | **1137.41** |
| **Selling price (₹)** | | | | |
| Farmer | 4348.05 | 3737.96 | 4159.06 | 4069.86 |
| Village Trader | 0.00 | 3920.00 | 4450.00 | 4300.00 |
| Wholesaler | 0.00 | 4100.00 | 4800.00 | 4600.00 |
| Rice Miller | 0.00 | 0.00 | 0.00 | 4800.00 |
| Producers share in consumer's rupee (%) | 79.10 | 43.14 | 39.53 | 40.57 |
| Absolute marketing margin (₹) | | | | |
| Village Trader | 0.00 | 204.67 | 306.58 | 280.14 |
| Wholesaler | 0.00 | 254.87 | 287.65 | 250.54 |
| Rice Miller | 0.00 | 0.00 | 0.00 | 238.97 |
| Total | 0.00 | 459.54 | 594.23 | 769.65 |
| **Percentage marketing margin** | | | | |
| Village Trader | 0.00 | 5.20 | 6.89 | 5.13 |
| Wholesaler | 0.00 | 2.57 | 6.46 | 4.79 |
| Rice Miller | 0.00 | 0.00 | 0.00 | 1.69 |
| **Total** | **0.00** | **7.77** | **13.35** | **11.61** |

**Table 4:** Marketing efficiency of different channels of Basmati rice (₹/q)

| Particulars | Channel I (₹) | Channel II (₹) | Channel III (₹) | Channel IV (₹) |
|---|---|---|---|---|
| Consumers' price/price received by retailer | 4348.05 | 3737.96 | 4159.06 | 4069.86 |
| Net price received by producers | 3439.62 | 3379.76 | 3874.23 | 3211.09 |
| Net marketing margin | 0.00 | 459.54 | 594.23 | 769.65 |
| Marketing cost | 908.43 | 478.20 | 674.83 | 1137.41 |
| Total marketing cost and margin | 908.43 | 937.74 | 1269.06 | 1907.06 |
| Marketing efficiency | 3.79 | 3.46 | 2.36 | 1.68 |

## CONCLUSION

Overall average per farm production of basmati rice on sample farm was 19.73 quintals from an average per farm area under this crop at 0.71 hectare and whereas overall on average per farm consumption of basmati rice was 1.67quintal which accounted for 5.32 percent of the total production. The overall marketed surplus comes to 1748.12 quintals whereas it was 680.05 quintals on marginal farms, 442.13 quintals on small farms and 625.94 on medium farms respectively. The average price received by the farmers for their marketed surplus was ₹ 4132.66 per quintal. The home consumption comes highest i.e. 114.74 quintals on medium farms followed by 30.59 quintals on small farms and 21.38 quintals on marginal farms respectively. The marketing efficiency index was found maximum in Channel-I (3.79) when Basmati rice was sold directly to consumer. The investigation revealed that the producer share in consumers rupee was highest that is 79.10 per cent in channel-I that is producer to consumer followed by channel-Il 43.14 per cent, channel-IV 40.57 per cent and channel-Ill 39.53 per cent respectively. When the produce was sold through intermediaries, the marketing efficiency was lower as it was 1.68 in Channel-IV, 2.36 in Channel-III and 3.46 in Channel-II.

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