

RESEARCH PAPER

A Bi-directional Shift in Marketing Channels Over Time: A Study of Rice Growers of Jammu Region

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ABSTRACT

This study examines the bi-directional shift in the marketing channels for rice surplus in the Jammu region focusing on farmers' transitions between government established procurement centres (PCs) and open markets (OM) between 2012 and 2023. Out of 100 farmers, 32 farmers who earlier sold their marketable surplus of rice at PC in 2012 shifted towards the OM and 28 farmers who sold their surplus rice at OM now adopted PC as their preferred marketing channel for selling rice surplus. The research identifies key factors driving these shifts were: transition from coarse to more profitable *basmati* rice cultivation and the convenience and flexibility of OM. Conversely, the demand of higher prices, assured payment systems and proximity to PCs encouraged farmers to switch from OM to government PC. The chi square test of association between farmers' land holding and choice of marketing channel indicates that land holding size significantly influenced the choice of marketing channel. Small land holdings farmers preferring PCs and farmers with large land holdings opting for OM. The findings underscore the importance of policy adjustments to align with shifting agricultural practices, enhance the accessibility and efficiency of PCs, and account for the region's diverse market dynamics.

HIGHLIGHTS

- Eighty-eight per cent of farmers shifted from PCs to OMs due to shift from cultivation of coarse to *basmati* rice, driven by higher profitability and the latter not being procured at PCs.
- Farmers preferred OMs for convenience and proximity while those opting for PCs cited assured payment (36%), better price of coarse rice (79%) and profitability (39%) as key factors.
- Landholding size influenced market choice, small and medium farmers opted for PCs whereas, large landholders preferred OMs for selling their surplus rice.

Keywords: Procurement centres, open markets, rice surplus, farmers' marketing channels

Procurement of food grains is one of the important elements for implementation of food management policy of the Government of India (GoI) and for catering to the need of public consumption of food grains in the country (CAG, 2015). The Food Corporation of India (FCI) under the department of Food and Public Distribution (FPD) and other designated state agencies undertake procurement of cereals in Jammu and Kashmir (J&K) (Peshin *et al.* 2016). Coarse grains are procured by state

government agencies for central pool as per the direction issued by GoI from time to time (FCI, 2023). Prior to the start of sowing activity, the Union Government announces Minimum support

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Price (MSP) for the crops based on the cost of production as well as other demand and supply factors as recommended by the Commission on Agricultural Costs and Prices (CACP) (Kumar *et al.* 2022). To facilitate procurement of food grains, FCI and various state agencies in consultation with the state government establish a large number of purchase centres at various *mandis* and key points. The number of centres and their locations are decided by the state governments based on various parameters so as to maximize the MSP operations (FCI, 2023).

In Jammu and Kashmir (J&K), there was no established policy for procurement of rice at MSP prior to 2010. There were reports of distress sale of the marketable surplus of rice in 2010. This impelled the authorities in the J&K Agriculture Production Department (APD) to intervene and involve the FCI in setting up temporary procurement centres (PCs) in the districts of Jammu, Kathua and Samba (Peshin *et al.* 2015). In 2011-12, government of J&K has established six PCs for procurement of rice and the total procurement of rice at these PCs during *Kharif Marketing Season* (KMS) 2011-12 was 1972.21 tonnes. A study was conducted in 2012 to evaluate the impact of government intervention in procurement of rice in Jammu region. When the same group of farmers were revisited in 2023, over a period of 11 years, an attrition of farmers and inter shifting of farmers among the groups was found. Some of the farmers who earlier used to sell the marketable surplus of rice at PC in 2012 were shifted towards the open market (OM) and vice-versa. The numbers of PCs were increased to eleven in 2022-23 and procurement of rice also increased to 3357.83 tonnes. But, over a period of more than a decade when the number of PCs were increased by 83 per cent, the rice procurement does not increased by the same momentum. Thus, the present study was planned to analyse the reasons for slow procurement at PCs.

MATERIAL AND METHODS

Study Area: Under the project conducted by the Division of Agricultural Extension Education of Sher-e-Kashmir University of Agricultural Sciences and Technology of Jammu (SKUAST-Jammu) on “Impact of government intervention in procurement of rice on smallholder farmers in subtropics of Jammu”, Jammu, Samba

and Kathua districts were selected for the field study in 2012 for finding the impact of the government established PCs on rice growers of the Jammu region. The study area was revisited in 2023 for conducting the field study.

Sampling plan: A total sample of 150 rice farmers, 100 farmers, who sold their surplus rice at PCs in 2012 (Experimental group) and 50 rice farmers, who sold their surplus rice at OM in 2012 (Control group) were surveyed and the results were published in *Agricultural Economics Research Review* (Peshin *et al.* 2015). For assessing the long-term impact of the project, the sampled farmers were revisited in 2023. Due to sample attrition, only 132 out of 150 farmers were contacted. In case of PC group, an attrition of seven farmers was observed, out of which four farmers were not identified whereas three farmers do not possess any land now. In OM group, there was an attrition of 11 farmers due to non-identification of nine farmers, death of one farmer and one farmer stopped cultivating land. Thus, the sample size for PC group changed from 100 to 93 and for OM group, it changed from 50 to 39. An inter-shifting of farmers between two groups was observed and it was found that 32 rice farmers shifted from PC to OM and 28 farmers were shifted from OM to PC (Fig. 1).

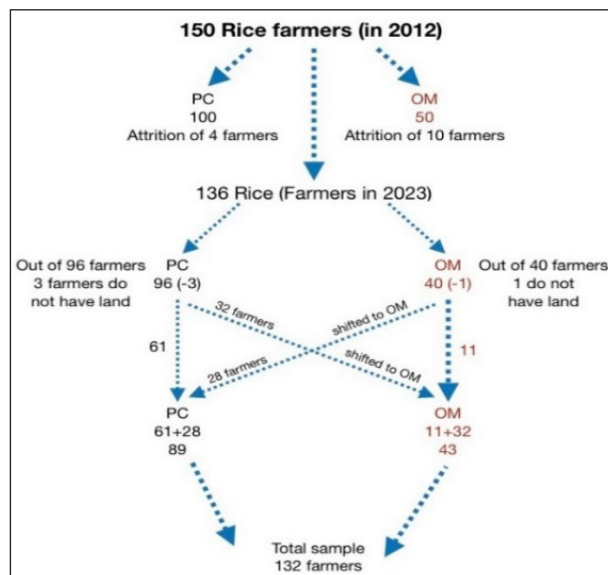


Fig. 1: Sampling plan

Research Design: Longitudinal research design was employed for the present study as the same group of the rice farmers who were studied in 2012 were revisited in 2023 over a decade to assess the change.

Impact evaluation indicators

- ♦ Marketing channels adopted for selling rice surplus
- ♦ Reasons for discontinuance of PCs
- ♦ Reasons for shifting from PCs to OM

Data collection: The data were collected in 2023 from rice farmers from pre-selected villages of mentioned districts who discontinued their previous marketing channel and shifted towards the other channel for selling rice surplus by personal interview method.

Statistical analysis: The Chi square test of association for determining the association between farmers' land holding and preferred marketing channel was used in the study.

RESULTS AND DISCUSSION

Descriptive statistics

The descriptive statistics of the sampled rice farmers of both the PC and OM is given in Table 1.

It was found that the farmers who sold their surplus rice at PC both in 2012 and 2023 were younger in age and more educated compared to those who sold their surplus rice at OM. The average age in both the groups was increased over time which can be attributed to land fragmentation within farm families leading to greater participation of the younger generation in agricultural activities. The average operational land holding was decreased over time in both the groups by (26.5%) in case of PC group and more than fifty per cent (53.6%)

Table 1: Descriptive statistics of sampled rice growers in 2012 and 2023

Parameters	2012		2023	
	PC (n=100)	OM (n=50)	PC (n=89)	OM (n=43)
Average age (years)	47.20 (11.60)	52.30 (10.80)	55.92 (12.81)	57.09 (14.11)
Average education (years)	9.4 (2.9)	7.8 (4.1)	10.29 (2.41)	9.81 (2.85)
Average operational land holding (ha)	3.69 (3.70)	2.85 (3.80)	2.71 (3.00)	1.32 (1.39)
Average leased in	—	—	0.07 (0.47)	—
Average owned land	—	—	2.64 (3.00)	1.32 (1.39)
Average irrigated land	—	—	2.51 (2.47)	1.29 (1.40)
Average un-irrigated	—	—	0.20 (0.78)	0.02 (0.12)
Area under rice crop in 2023 (ha)	284.15	111.55	228.35	55.26
Average area under rice crop in 2023 (ha)	2.84 (2.25)	2.23 (2.80)	2.56 (2.49)	1.28 (1.40)
Average distance from nearest institution (km)				
Market	4.60 (5.40)	5.50 (6.80)	2.46 (2.72)	2.37 (3.98)
Procurement centre (PC)	2.80 (3.10)	2.10 (1.60)	2.59 (1.82)	4.14 (5.19)
Agriculture office	—	—	2.91 (1.97)	4.57 (3.33)
KVK/Agriculture University	—	—	39.37 (17.07)	34.02 (23.65)
Seed store	—	—	1.74 (1.16)	1.58 (1.12)
Pesticide store	—	—	1.74 (1.16)	1.54 (1.05)
Fertilizer store	—	—	1.74 (1.16)	1.54 (1.05)
Average family size (number)	7.90 (3.70)	7.80 (4.30)	6.14 (2.41)	6.48 (2.47)
Average farming experience (years)	23.60 (11.80)	27.20 (12.70)	30.26 (12.45)	29.72 (15.33)
Possession of mobile phone (% farmers)	79	78	98	100
Registered on procurement portal (% farmers)	—	—	08	00
Possession of KCC (% farmers)	—	—	72	61
Possession of storage facility at their home (% farmers)	—	—	100	95
Respondents having land registered on their name (% farmers)	—	—	93	84

*Figures in the parentheses are standard deviation; Decimals have been rounded off to nearest whole numbers.

in case of OM group, respectively. There was a downward trend in total cultivable area under rice and average area under rice over time in both the groups. The descriptive statistics further revealed that farmers residing closer to PC were more likely to sell their produce at PC in both 2012 and 2023, respectively.

Marketing channels adopted by rice growers for selling surplus rice

In 2012, cent per cent farmers from the PC group sold their surplus rice at PCs and cent per cent farmers from the OM group sold their surplus rice in OM. But in 2023, when the same group of farmers were revisited, an attrition of seven farmers in the PC group and attrition of eleven farmers in the OM group was observed. A shift of farmers within the groups was also observed over time. Out of remaining 93 farmers from the PC group, 61 farmers continued selling their surplus rice at the PCs while and 32 farmers shifted towards OM for selling surplus rice. In case of OM group, out of 39 farmers, eleven farmers continued selling their surplus rice at OM while other twenty-eight farmers shifted towards PC making a total sample of 89 for the PC group and 43 for OM group, respectively. Additionally, the data revealed a significant increase (72%) in the marketing of coarse rice at PCs within the PC group over time. Conversely, there was 22 per cent decline in the marketing of both coarse and semi-fine rice combined and 50 per cent decrease in the marketing of semi-fine rice alone within the PC group. For the OM group, there were reductions in the sale of marketable surplus for both coarse and

semi fine rice (14%), coarse rice alone (26%) and semi-fine rice alone (52%) over time (Table 2).

Reasons of discontinuance of selling rice at procurement centres

The reasons for shift of farmers from OM to PC and back for selling rice surplus in 2023 are illustrated in Table 3 and Table 4 respectively.

The study revealed several key reasons for the discontinuance of selling surplus rice at government PCs. The majority of farmers (88%) cited the shift from cultivating coarse rice to *basmati* rice as the primary factor. The *basmati* rice, which is more profitable and has greater demand in OM is not procured by the government at PCs, contributing to farmers' decisions to move away from formal procurement channels. *Basmati* rice commands a significantly higher price in international markets with exports accounting for around 80 per cent of production (Joshi and Kumar, 2023). Additionally, 19 per cent of the farmers reported that the distance of the PCs from their farms was a significant deterrent making it inconvenient to transport their produce. The lack of procurement for *basmati* rice at PCs (18%) further solidified farmers' preference for alternative marketing channels (Table 3).

Other contributing factors included the convenience offered by private dealers who often lift the produce directly from the fields (9%) and the easy access to open markets (6%). Furthermore, the cumbersome and time-consuming procedures at PCs (6%), late start of the procurement process (6%) and the fact that payments from private buyers were received more quickly (3%) also played a role in the farmers'

Table 2: Marketing channels adopted for selling surplus of rice (% farmers)

Marketing Channels	PC group			OM group		
	2012 (n=100) (1)	2023 (n=89) (2)	Difference (2-1) (3)	2012 (n=50) (4)	2023 (n=43) (5)	Difference (5-4) (6)
Procurement centre	100	100	00	—	—	—
Both coarse and semi-fine	22	—	-22	—	—	—
Coarse rice only	28	100	+72	—	—	—
Semi-fine rice only	50	—	-50	—	—	—
Open market	—	—	—	100	12	-88
Both coarse and semi-fine	—	—	—	14	00	-14
Coarse rice only	—	—	—	34	12	-26
Semi-fine rice only	—	—	—	52	00	-52

decision to discontinue selling at PCs. These findings highlight the challenges faced by farmers in utilizing government PCs and the appeal of more flexible and immediate marketing alternatives such as private dealers and open markets.

Table 3: Reasons for discontinuance of selling surplus rice at PC (% farmers)

Reasons	(n=32)
Shifted from coarse rice to <i>basmati</i> rice	88
No procurement centre nearby	19
No <i>basmati</i> procurement by government	18
Private dealers lift produce from field	09
Open market is easily accessible	06
Time consuming	06
Late start of procurement process at PC	06
Payment from private buyers received easily	03

*Multiple response.

*The percentage are rounded off to the nearest whole numbers.

Reasons for shift from OM to PC

In 2012, all the 50 farmers of OM group were selling surplus rice at the OM. While revisiting these farmers in 2023, it was found that 28 farmers shifted from the OM to PC established by the FCI. The farmers provided several key reasons for this shift. The most commonly cited reason reported by 79 per cent of the farmers was the higher sale price of coarse grains available at the FCI, which offered a more favourable financial return compared to the OM. Additionally, 39 per cent of the farmers indicated that the cultivation of coarse rice had become more profitable than the semi-fine type of rice they had previously grown, which made it a more viable option for them. Another significant reason mentioned by 36 per cent of the farmers was the assured payment system provided by the FCI. This ensured timely and reliable payment reducing financial uncertainties and increasing the farmers' trust in the FCI as a dependable buyer. Furthermore, four per cent of the farmers cited the proximity of the PC to their homes as a contributing factor. The closer location reduced transportation costs and time further incentivizing the shift. These findings highlights that economic benefits such as higher prices, increased profitability from coarse rice cultivation, and the security of assured payments,

were central to the farmers' decision to transition from the OM to the PCs established by the FCI. Additionally, the convenience of location played a role notwithstanding to a lesser extent in this shift (Table 4).

Table 4: Reasons for shift of farmers from OM to PC (% farmers)

Reasons	(n=28)
High sale rate of coarse grains	79
Cultivation of coarse rice more profitable	39
Assured payment	36
Near to home	04

*Multiple response.

*The percentage are rounded up to the nearest whole numbers.

Association of farmers' land holding with their preferred marketing channel for selling rice

The association between respondents' land holding and preferred marketing channel for selling rice surplus is illustrated in Table 3. Out of 89 farmers who sold their surplus rice at PC in 2023, 46 farmers have medium land holding between 1.1 to 2 ha and 43 farmers having small land holding i.e. upto 1 ha whereas none of the farmer having land greater than 2 ha sold rice at PC (Table 5).

On the other hand, among the farmers who sold rice surplus at OM in 2023, majority 35 respondents belonged to medium category having land holding ranging between 1.1-2 ha with eight farmers having large land holding. None of the farmers who has small land holding sold rice at OM in 2023. The association of respondents' land holding and preferred marketing channel for selling rice surplus was found statistically significant as the calculated value χ^2 (41.504) is greater than the table value of χ^2 ($p < 0.05$) for ($df = 2$) (Table 5). These findings are consistent with those of (Alam *et al.* 2025) who reported that farm size has a significant impact on farmers' choice of marketing channels with ($p=0.044$) and (Donkar *et al.* 2021) who further revealed that farm size plays a crucial role in the production process and has a positive influence on farmers' participation and intensity of participation in the direct marketing channels.

Table 5: Association of land holding and marketing channel for selling rice surplus

Marketing channels	Land holding			Total
	Small (Upto 1 ha)	Medium (1.1-2 ha)	Large (2.1 ha and above)	
Procurement centre	43	46	0	89
(% within land holding)	(100)	(57)	(0)	(67)
(% within marketing channel)	(48)	(52)	(0)	(100)
Open market	0	35	8	43
(% within land holding)	(0)	(43)	(100)	(33)
(% within marketing channel)	(0)	(81)	(19)	(100)
Total	43	81	8	132
(% within land holding)	(100)	(100)	(100)	(100)
(% within marketing channel)	(33)	(61)	(6)	(100)

*Figures in the parentheses are percentages.

*Decimals have been rounded off to the nearest whole numbers.

Chi-square table

Chi square test	Value	df	Asym. Sig. (2 sided)
Pearson Chi-square	41.504 ^a	2	.000
Likelihood Ratio	55.828	2	.000
Linear-by-Linear Association	40.768	1	.000
N of Valid Cases	132		

CONCLUSION

The study provides valuable insights into the shifting patterns of farmers' rice surplus sales between PCs and OM in Jammu region over an 11-year period. The findings highlight several key factors influencing these shifts. Majority (88%) of the farmers who shifted from PCs to OM primarily ceased cultivation of coarse rice and shifted towards the cultivation of *basmati* rice. Furthermore, nineteen per cent of farmers do not sold their rice surplus at PC due to non-proximity of PC from farmers' residence. The other reason reported by the farmers that higher profitability of *basmati* rice which is not procured at government PCs and the convenience offered by private dealers. In contrast, those shifting from OMs to PCs favoured the assured payment system (36%), more profit in coarse rice cultivation (39%), higher sale prices of coarse grains (79%) and proximity to PCs (4%). Economic benefits such as higher prices and profitability were central to these decisions. The study also found that land holding size significantly influenced the choice of marketing channel with the farmers possessing medium and small land holdings were more likely to sell produce

at PCs, while farmers with large land holding preferred OM for selling their surplus rice. The results underscore the need for policy adjustments including greater flexibility to accommodate the evolving cropping patterns and market dynamics. It also suggests that enhancing the efficiency of PCs and improving their accessibility and timeliness could help in attracting more farmers to utilize formal marketing channels especially in regions with diverse agricultural practices like Jammu.

REFERENCES

- Alam, M.M., Shaba, S. and Zaman, S.M. 2025. What does matter most for farmers' choice of marketing channels? Evidence from coastal Bangladesh. *Journal of Agriculture, Food Systems and Community Development*, **14**(2): 1-15.
- CAG [Comptroller and Auditor General of India]. 2015. Foodgrain procurement policy. Available: https://cag.gov.in/uploads/download_audit_report/2015/Union_Performance_Procurement_Milling_of_Paddy_Central_Pool_31_2015_chap_1.pdf. [19 July 2024].
- Donkor, E.A., Garnevska, E., Siddique, M.I. and Donkor, E. 2021. Determinants of rice farmer participation in the direct marketing channel in Ghana. *Sustainability*, **13**(9): 5047.

- FCI [Food Corporation of India]. 2023. Procurement. Available: <https://fci.gov.in>. [20 July 2024].
- Joshi, N. and Kumar, A. 2023. Basmati rice exports from India: Towards global food security. *International Journal of Environment and Climate Change*, **13**(8): 996-1000.
- Kumar, A., Sonkar, V.K. and Bathla, S. 2022. Does public procurement benefit paddy farmers? Evidence from Eastern India. *Economic and Political Weekly*, **57**(21): 43.
- Peshin, R., Sharma, R., Dwivedi, S., Nanda, R., Sharma, L.K., Kumar, R. and Risam, K. S. 2016. Impact of government policy intervention in procurement of wheat in Jammu region of Jammu and Kashmir state. *Indian Journal of Ecology*, **43**(1): 569-573.
- Peshin, R., Sharma, R., Gupta, V., Ajrawat, B. and Risam, K.S. 2015. Impact of government intervention in procurement of rice on smallholder farmers in subtropics of Jammu. *Agricultural Economics Research Review*, **28**(2): 263-270.

