



## Staggered public procurement of food grains in Punjab: New policy regime

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### ABSTRACT

Punjab has been significantly contributing to the central pool of food reserves. But the marketing efficiency of farm produce must be improved in the context of new policy regime. The present study was undertaken during 2019–20 to examine the farmers' perspectives and challenges that emerged in the initiation of an alternative procurement approach for foodgrains. The results revealed that the marketed surplus of wheat was around 232 q and about 90% of the wheat production is being sold in the market. The selected farmers sold about 95% of their marketed surplus in the post-harvest period and just 5% sold during the lean period in case of wheat crop. Further, among all the categories, the large farmers sold their produce in a lean period followed by medium and small farmers. The month-wise pattern of the total market arrival clearly revealed that more than 90% of the wheat arrived during the month of April and May and prices of wheat crops fluctuate during the lean period. On the other hand, the largest volume of paddy arrived in the month of October and November and paddy price remained almost at par with MSP in the post-harvest period. By considering all the aspects, it was found that the scheme of staggered procurement is feasible for the wheat crop only as the majority of farmers were willing to adopt this scheme. In the whole process, the additional income to the farmers comprises a sum of ₹ 900 crores in the marketing season of the wheat crop.

**Key words:** Foodgrains, Marketed Surplus, Paddy, Staggered procurement, Wheat

Rice and wheat are the major staples in India and the government has supported ensured public procurement with effective price policy to these crops, as it is key determinant of production, productivity, and profitability (GOI 2010, Chand 2012, Chand and Shinoj 2012, Acharya and Agarwal 2021). The agricultural price policy has been instrumental in creating a favorable incentive environment for the farmers to induce them to adopt new production technology and thereby increase the output of food grains (Tripathi 2012). Consequently, procurement has led to a momentum increase in the production of paddy and wheat crops over the last five decades. Punjab is one of the major agrarian states in India and it accounted for over 12% of national rice production and over 18% of national wheat production (PAU 2020). Although India has moved from food deficit nation to a food exporter within the last few decades, due to rapidly growing population, increasing urbanization, abrupt climate changes, and land use for non-food crop production intensify the concerns of increasing food and feed demands in the future. Beside this, the policymakers lately had focused on improving agricultural production only and

minimal stress has been given to the policies which point towards post-harvest losses which presently require utmost attention especially in times of national distress (Kumar and Kalita 2017). These post-harvest losses reduce the amount of food grains which is both quantitative and qualitative in nature (Elumalai Kannan 2015, Sawicka Barbara 2019). To have smooth public procurement of wheat and paddy, an alternative is suggested in the form of the introduction of a step-procurement approach for produce (Dhillon and Sidhu 2020). Presently, public procurement agencies have been facing the problem of sufficient storage capacity, thus, despite restructuring Central and State Warehousing Corporations, efforts can be made to reframe procurement policy that could help in resolving the issue of crop losses during the storage. Keeping this scenario in view, the present study was planned to investigate an alternative approach for procurement of food grains in Punjab.

### MATERIALS AND METHODS

The study based on primary and secondary data was conducted in the Punjab state. Punjab is divided into three well-defined agro-climatic zones, namely, sub-mountainous zone (zone I), central zone (zone II), and south-western zone (zone III), which occupy 9%, 65% and 26% area of the state, respectively. Keeping in view the objective of the study, multi-stage random sampling technique was followed. In the first stage, three districts, viz. Hoshiarpur, Ludhiana and Bathinda were selected from zone I, zone II and zone

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III, respectively (2019–20). Further, one block from each district and two villages from each block were selected randomly. At third stage, from each village, 30 farmers were selected randomly. The farmers were categorized into, marginal and small farmers (up to 2 ha), medium farmers (2–10 ha) and large farmers (above 10 ha). The ultimate sample consisted of 180 farmers, comprised 38 marginal and small farmers, 106 medium farmers, and 36 large farmers. Moreover, discussion with commission agents, officials of Punjab Mandi Board, FCI and other purchasing agencies was conducted to observe the practicability of staggered public procurement approach in Punjab. The data was collected during the year 2019–20 from the selected farmers.

## RESULTS AND DISCUSSION

### *Production, sale and storage of grains at farm level:*

The socio-economic characteristics of the farmers are the key factors which determine the level of efficacy of any new initiative, policy or strategy. The field survey revealed that the average age of sample farmers was about 44 years in Punjab. In so far as the educational level of the farmers is concerned, the study revealed that the large farmers have more years of education as compared to the small and medium farmers (about 14 years of education). Further, average number per family in all categories was about six members. Operational area of the sample farmers depicted that the overall average operational holding was 16.45 acres in which about 71% had their own land and about 34% was leased in area. The farmers were augmenting their holding by leasing in land. Of the surveyed 180 farmers, about 21% farmers were marginal and small, about 59%

medium and 20% were big farmers. The cropping pattern is another important parameter which determines the level of marketable surplus of the farmers. Table 1 revealed that wheat and paddy were the major crops grown by the farmers. An average sampled farmer allocated 8.79 acres (53%) of the operational holding to paddy in *kharif* season. However, in *rabi* season, the maximum area was under wheat crop which was 13.48 acres consisting about 89% of the operational holding.

The marketed surplus of wheat was as high as 90% (231.63 q) on an average sampled farm in the state during 2018–19 (Table 1). The small farmers had about 66% marketed surplus of wheat. The corresponding figures for medium and large farmers were about 89 and 92% respectively. The selected farmers kept about 10% of the produce for family consumption, seed, cattle feed, payment in kind to the labour and other miscellaneous uses. Family consumption was the highest among small farmers, which was about 24% of the production.

In paddy crop, 99% of marketed surplus, very small quantities was kept by the farmers for family consumption because rice is not a staple food for the Punjabi community, only medium and large farmers kept for family consumption. The quantity kept for seed was negligible as almost all the farmers harvested and threshed their paddy crop with combine harvesters. In this mechanized farm operation, the percentage share of broken seeds is very high. Further, the seed requirements of paddy are also less in comparison to wheat. The selected farmers preferred to buy the seed of the paddy from public seed agencies like Punjab Agricultural University, private seed companies, seed dealers etc. Thus,

Table 1 Production, retention and sale pattern of wheat and paddy with selected farmers in Punjab, 2018-19

Particulars		Small	Medium	Large	Average
<i>Wheat</i>					
Production (Per farm/q)		39.24	219.28	604.29	258.27
Family consumption (Per farm/q)		9.53	10.56	15.56	11.34
Other use (Per farm/q)		3.77	12.93	34.45	15.30
Marketed surplus (Per farm/q)		25.95	195.79	554.28	231.63
Estimated (MT)	Production	1.71	11.62	4.52	17.85
	Marketed surplus	1.13	10.38	4.15	16.01
Quantity sold (%)	Post-harvest period	97.4	96.3	92.4	95.3
	Lean period	2.6	3.7	7.6	4.7
<i>Paddy</i>					
Production (Per farm/q)		43.33	261.94	888.75	323.65
Family Consumption (Per farm/q)			1	4.63	1.38
Other use (Per farm/q)			0.02		0.02
Marketed surplus (Per farm/q)		43.33	260.91	884.13	322.25
Estimated (MT)	Production	1.94	13.02	4.98	19.94
	Marketed surplus	1.94	12.97	4.95	19.86
Quantity sold (%)	Post-harvest period	99.9	98.4	95.5	97.93
	Lean period	0.1	1.6	4.5	2.07

Other use includes payment in kind to labour, seed, cattle feed and miscellaneous use

there is always a rush to sell the produce after each harvest, causing a glut in the market. Overall, the marketed surplus, particularly of wheat and paddy, is high; and therefore, Punjab is known as the breadbasket of India with significant contribution to the national food pool. The market surplus of large farmers, being the large size of holding, was the highest followed by medium and large farmers. In case of wheat it was around 554.28 q with the large farmers, followed by medium and small farmers. Similarly, the market surplus in case of paddy was around 884 q with the large farmers, followed by medium farmers (260.91 q) and small farmers (43.33 q). It was found that around 65% of the total production of wheat and paddy was confined to the medium farmers followed by large farmers with around 25% and small farmers with around 10%.

The sale pattern of wheat and paddy of the selected farmers revealed that as much as 95% of the selected farmers sold wheat produce immediately after harvest and rest 5% in the lean period. In case of paddy crop, only 2% of the sample farmers sold their produce in lean period. The farmers sold their large quantity of produce immediately after harvest mainly due to satisfactory price realization. It was observed that those farmers who sold in lean period, generally sold to the private traders. The large farmers sold their produce in the lean period followed by the medium and small farmers. The insufficient storage capacity and other economic reasons of small farmers pushed them to sell their large volume of wheat (97.4%) and paddy (99.9%) immediately after harvest. In Punjab, one-third of the total operational land holdings are small (< 2 ha), that produces around 10% of total wheat production of the state. Most of them are relied on seasonal income and meet their routine domestic expenditure. For these farmers, the government needs to provide financial help, metal grain drums and other storage facilities so that these farmers may avail of the benefits of increased prices. The large farmers having 7% share in the total number of operational holdings, producing 25% of total production. It was estimated that the large farmers can store 40–50% of their total production for selling in phased manner. This shows that the farmers in general and large farmers in particular may participate in this procurement process.

*Staggered public procurement: Farmers' perspective:* Staggered public procurement is a system which assures an incremental enhancement in procurement price for farmers' produce. In this system, some financial incentive is assumed to be given to the farmers in the form of increase in the minimum support price on time basis as the farmer has to bear the additional storage cost, storage losses and interest on the stock held by him. To know the efficacy of staggered public procurement system, the present study investigates the farmers' willingness for the participation, phases of public procurement for wheat, increase in MSP of wheat demanded by the farmers, expected benefits and challenges. The availability of storage structure with all the farmers is one of the significant factors to understand the effectiveness of policy. The types of storage structure used

by various farmers was the metal bin as common source of storage followed by *kothi* (store room) and gunny bags in the study area.

*Farmers' willingness for participation in staggered public procurement:* The adoption and successful implementation of new initiative or strategy depends upon the willingness and tendency to perceive and react of the farmers. Hence, all the sampled farmers were asked regarding their willingness to participate in staggered public procurement. The results revealed that the majority (80%) of the farmers were agreed with this staggered procurement approach in wheat crop, while one-sixth of the respondents had neutral response towards the implementation of this approach in the Punjab state. However, for the paddy crop, the majority of the farmers were not in the favour of staggered procurement. Wherein the 41% of the respondents were disagree and about 8% were strongly disagree. Some respondents (6.67%) were in the favour of paddy procurement in staggered manner due its storage and other problems at farmers' level. It is the pertinent to know that not even a single farmer was strongly agreed with the staggered public procurement approach for paddy crop in Punjab state.

In nut shell, it can be concluded that majority of the farmers were not in the favour of staggered procurement for paddy crop. Besides this, as per consultation with the technical experts' it is divulged that paddy crop has many limitations such as high moisture content and grain traits etc. which may create hindrance in storage at farmers' field. Therefore, at this juncture of time, staggered procurement scheme is not recommended for the marketing of paddy crop. Keeping all issues in view, it is suggested that staggered procurement approach should be started as an efficient alternative for wheat crop only.

*Phases of public procurement for wheat:* According to this staggered procurement approach, the whole procurement of wheat process may be divided into three phases, i.e. Phase-I (1 April to 30 April), Phase-II (1 May to 31 May) and Phase-III (1 June to 30 June). The first phase will be the same, wherein the procurement may start from April 1 and it will be up to 30 April. During this phase, the farmers will sell their produce at pre-announced MSP which is ₹ 1925 per q the current year of 2019–20. The second phase for wheat procurement will start from next day and the period starts from May 1 to May 31. During this phase, the farmers shall get additional ₹ 100 per q with MSP of the produce. This can be facilitated by incentivizing farmers to delay and stagger arrival of wheat in the markets. This will reduce the burden of carryover cost to certain extent and avoid glut in the markets. The third phase will be started from June 1 to June 30 and the farmers shall get higher incentive of ₹ 200 per q than phase I. In this whole process, the approach may increase the duration of procurement period as the total quantity of grain to be procured remains the same, but the increased period will lessen the pressure of procurement of the wheat crop on all the stakeholders. This proposed approach can be framed and discussed from the larger

perspective of saving grains from the decaying in godowns and losses during mishandling which occur in prevailing procurement process.

*Increase in MSP of wheat demanded by the farmers:* The implementation of any policy is mainly determined by various stakeholders. Keeping in view the additional incentive to the farmers with an implementation of staggered public procurement approach, the study has further probed the issue of higher prices or bonus demanded by the farmers in condition to sell their wheat produce in phased manner. In our study, 50% of the respondents demanded higher prices for wheat produce in the range of ₹ 101 to 150 followed by 26% (₹ 51 to 100). Among all the categories of the farmers, large farmers demanded an amount which falls in the category of ₹ 51 to 100. Certainly, this incentive in the shape of higher prices for wheat produce will add to the finances that would be borne by the Union Government in the form of enhanced MSP.

*Expected benefits of staggered public procurement:* In Punjab, with an average sampled farmer, the marketed surplus of wheat was around 232 q and about 90% of the wheat production is being sold in the market. The results of the survey indicated that the selected farmers sold about 95% of their marketed surplus in the post-harvest period and just 5% sold during the lean period in case of wheat crop. Further, among all the categories, the large farmers sold their produce in lean period followed by medium and small farmers. The most common storage structure used by the farmers was metal bin. The month-wise pattern of the total market arrival clearly revealed that more than 90% of the wheat arrived during the month of April and May since 2010-11; in the remaining 10 months of the year had been negligible during the period 2010-11 to 2018-19. On the other hand, in paddy crop the maximum arrival of paddy in the regulated markets of the state was arrived in the month of October and November in all the years and paddy price remained almost same as the MSP in the post-harvest months. In some years, paddy price was less than the MSP in the lean period (January to August). This happened because public procurement of paddy took place only in post-harvest period.

In so far as the farmers' financial benefits are concerned, it is estimated that a sum of ₹386 crore will be an additional income to the farmers of the Punjab during the phase II for wheat crop only (Table 2). During this phase, the government will have to provide incentive of ₹ 100 per q including MSP. Similarly, the procurement season can also be extended up to end June, resultantly, these farmers shall get additional income of ₹ 514 crore in phase III. In the whole process, the additional income to the farmers comprises a sum of ₹ 900 crore in the marketing season of wheat crop. There will be no additional incentive to the farmers during phase I, as the whole produce will be sold at MSP. This scheme may avoid wheat glut in the market by increasing the income of farmers in the state plus reducing grain losses at large. In addition to this, it is significant to know that large number of farmers rush to the market for selling their produce

Table 2 Estimated benefits to the farmers with staggered procurement approach for wheat in Punjab

Particular	Phase-I	Phase-II	Phase-III
Marketable surplus (Million tonnes)	6.43	3.858	2.572
MSP/MSP + Additional funds (₹/q)	1925	1925+100	1925+200
Additional fund required (₹/crore)	0	385.8	514

Wheat yield has been taken from the sample farmers. To estimate the additional funds to be required for staggered public procurement approach, the study assumed that 50% of total market arrival will be sold in Phase-I followed by 30% in Phase-II and 20 per cent in Phase-III.

immediately after crop harvesting. In such a situation, many times it becomes hard and challenging for the farmers to find space in the market yard for the sale of the produce. As a result, majority of the farmers in general and smaller ones in particular make their wheat piles on road sides and streets. In the proposed scenario of staggered procurement, this will be an additional advantage for the farmers to find a suitable space in the market yard for selling their produce.

In spite of some direct benefits to the farmers, this scheme will extend many additional intangible benefits to the farmers and society. First of all, this approach will be helpful to overcome the issue of post-harvest losses up to some extent. In addition to reducing losses, the effective storage of wheat can motivate farmers to store their produce and obtain high prices instead of selling just after the harvest, when there is large supply of crop. This approach may improve the efficiency of public distribution system in the state. By enhancing procurement time, an additional employment will be generated for labour. The post-harvest losses have an adverse impact on the environment causes additional CO<sub>2</sub> emissions with food production.

*Challenges in staggered public procurement:* The procurement under any crop with enhanced prices is a new marketing initiative, which will be challenging in the changing under new farm policy regime. The market support to the farmers is always emerged as key issue in the global economy. The developed countries raised objection against India's massive public stockholding of food grains stems from the possibility of distortion in trade practices and dumping of food stock procured for domestic consumption (Mishra and Agrawal 2017). At this junction of time, particularly in age of liberalised economy, there are some practical issues towards the implementation of this procurement mode in Punjab. Firstly, it seems less beneficial to the small farmers as majority of small farmers sell their produce immediately after harvesting their crop to fulfil their urgent domestic as well as farm needs. Moreover, these farmers are lacking with sufficient storage facilities. Secondly, in this scheme, it is fear that engrossment of the traders may increase as a result they may get unnecessary benefit from this scheme. Thirdly,



inter-state trade enhancement is also an important challenge to be faced by the government. With this, the traders from Punjab may buy from those states, from where they may get prices lower than MSP and sell that produce in Punjab. Fourthly, it will increase the storage cost of the farmers, as few of them are already getting prices more than MSP in lean period from private procurement agencies. Fifthly, like prevailing MSP the enhanced MSP in phased manner can also be considered as market distortions in the global trade economy. Lastly, during field survey few farmers made the opinion that this approach may lead to the situation in which Union government in future may reduce the effectiveness of the prevailing MSP.

Keeping in view the existing market scenario, farmers' perspective, benefits and challenges of this approach at the farm and market levels, it is feasible to initiate staggered public procurement of wheat crop in the Punjab state.

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