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The Role of Cooperative Societies in Seed Distribution: A Case Study of Punjab, India

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HIGHLIGHTS

- Sixty per cent of the cooperative societies were working, only 8.5 per cent of the member farmers procured wheat seed from cooperative societies.
- All the farmers were satisfied with the available seed price and half were satisfied with quality and quantity of the seed at cooperative societies.
- Majority of farmers preferred procuring seed from cooperative society in future although late arrival of seed and lack of information regarding seed availability at cooperative society were the concerns.

ARTICLE INFO

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ABSTRACT

Cooperative societies, integral to the formal seed system, are crucial for agricultural development, providing resources, inputs etc. The study was conducted in 2023 and aimed to analyze the role of cooperative societies in distributing wheat and rice seeds to farmers, examine farmer satisfaction levels, and identify problems faced by them in seed procurement. Using a multi-stage sampling design, the study was conducted in Punjab across five agro-climatic zones. One district with the highest wheat and rice production was selected from each zone, followed by random selection of one block per district, two villages per block, and 20 farmers per village, making a total sample of 200 farmers. Village cooperative society secretaries were also interviewed. Results indicated 60 per cent of farmers were cooperative society members, but only 8.5 per cent procured wheat seed from these societies. In 2022, 11.76 per cent of members procured wheat seed, rising to 17.65 per cent in 2023. Most farmers reported high satisfaction with seed quality and quantity, and all found prices affordable. Major issues included late seed arrival and lack of information regarding availability. The majority preferred procuring seeds from cooperative societies in the future. It is recommended to improve financial management and enhance logistics to ensure timely seed availability.

INTRODUCTION

Cooperative societies' vital role in agricultural development encompasses providing resources, inputs, marketing channels, storage solutions, distribution networks, value addition, market information, and continuous monitoring. Additionally, cooperatives are involved in economic activities such as disbursing credit and

distributing agricultural inputs like seeds, fertilizers, and agrochemicals (Yashoda, 2017). In agriculture, the most crucial input is seed quality, which significantly influences yield, assuming other inputs are proportionately supplied. Improved and hybrid seeds are vital components of new, scale-neutral technologies. High-quality seeds are essential for yield enhancement, with genetically

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superior seeds alone capable of boosting crop output by 15 to 20 per cent (Ali, 2016).

Seed systems are divided into formal and informal systems, with farmers sourcing seeds from various actors within these systems (Aistara, 2011). In the formal seed system, certified seeds are distributed by research stations, government institutions, and private seed dealers. The informal seed system, also known as local, traditional, or farmer seed system, involves the exchange of non-certified improved varieties, regulated by social relationships among farmers (Hodgkin et al., 2007; Sperling & Christinck, 2005; Stromberg et al., 2010). Cooperative societies are fundamental to the formal seed system and cooperative marketing, serving 95 to 97 percent of farming families. In Thanjavur district, Tamil Nadu, approximately 70 percent of fertilizers were distributed by cooperative credit societies (Kavitha, 2023).

Acknowledging the importance of seed quality and cooperative societies, the Union Cabinet approved the creation of a national-level multi-state seed cooperative society under the Multi State Cooperative Societies (MSCS) Act, 2002. This central organization will handle the production, procurement, processing, branding, labeling, packaging, storage, marketing, and distribution of high-quality seeds (Ministry of Cooperation, 2023). Given the essential role of cooperative societies in providing agricultural inputs and custom hiring services, they remain the preferred agency among farmers. This study aims to analyze the role of cooperative societies in distributing wheat and rice seeds to farmers in Punjab, assess farmer satisfaction with seeds procured from these societies, and identify challenges faced in seed procurement from cooperative societies.

METHODOLOGY

The study was purposively conducted in the state of Punjab, given its ranking third in both the area and production of wheat and paddy in 2021. The state is just 1.4 per cent of the total geographical area of India, but it produces roughly 12 per cent of cereals produced in the country. The state is categorized into five distinct agro climatic zones based on factors such as uniformity, precipitation patterns, and cropping systems. These zones include the sub-mountain undulating zone, undulating plain zone, central plain zone, western plain zone, and western zone (Choudhary & Singh 2019).

Multi-stage sampling design was followed for the study. All the five agro climatic zones were selected. From each agroclimatic zone, one district was selected purposively on the basis of highest area and production under wheat and rice cultivation namely, Sangrur, Gurdaspur, Ferozepur, Bathinda and Shaheed Bhagat Singh Nagar. Further from each district, one block was selected randomly. From each block two villages were selected randomly and from each village 20 farmers were selected randomly, making a total sample of 200 farmers. From each village, secretary of village cooperative society was interviewed to gather information regarding seed distribution by cooperative society. Data was collected from farmers and secretary of cooperative society by personally administering structured interview schedule.

RESULTS

Information regarding cooperative societies surveyed

Table 1 revealed that out of eight societies surveyed randomly from 10 villages, six were operational. The number of villages being served by each society varied from four to one. Four villages were served by the cooperative society of the Central Plain Zone (villages Rangia & Kumberwal) and the Western Plain Zone (villages Ratta Khera & Badhani Gulab Singh), followed by three villages served by the cooperative society of the Sub-mountain Undulating Zone (village Sallopur) and the Western Plain Zone (village Sardargarh), while one village was served by society in the village of Behman Diwana from the Western Zone. Further data shows that in 2022, wheat seed was available in only two cooperative societies, namely Sallopur and Behman Diwana, with a total quantity of seed available of 1800 kg and 2000 kg, respectively. In 2023, wheat seed was available in both cooperative societies of the Western Zone. About 4000 kg of wheat seed was available in the cooperative society serving village Sardargarh, and 5000 kg of seed was available in the Behman Diwana cooperative society.

Status of cooperative society membership and wheat seed procurement in past three years

While procuring seed, farmer's preference for seed sources varied depending upon the availability of desired variety and

Table 1. Information regarding Cooperative Societies surveyed

S.No.	Agro-Climatic Zone	Village	Status	Number of villages under cooperative society	Quantity of seed available at cooperative Society (kg)	
					2022	2023
1	Central Plain Zone (Sangrur)	Rangia	Working	4	-	-
		Kumberwal				
2	Sub-Mountain Undulating Zone (Gurdaspur)	Sallopur	Working	3	1800	-
		Nanowal Kalan	Not Working	0	-	-
3	Undulating Plain Zone (Shahid Bhagat Singh Nagar)	Jagatpur	Working	4	-	-
		Raipur	Not working	0	-	-
4	Western Plain Zone (Firozpur)	Ratta Khera	Working	4	-	-
		Badhani Gulab Singh				
5	Western Zone (Bathinda)	Sardargarh	Working	3	-	4000
		Behman Diwana	Working	1	2000	5000

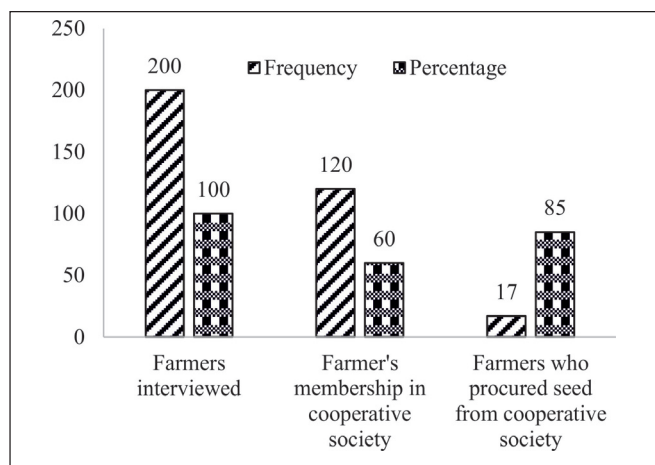


Figure 1. Status of cooperative society membership and seed procurement in last three years

quantity, proximity of seed source, price of seed and credibility of the seed. Data regarding farmer's preference for wheat seed has been presented in Figure 1. The information about farmers' membership in cooperative societies and their seed procurement practices is illustrated in Figure 1. The data showed that approximately 60 percent being members of a cooperative society, only 8.5 percent of the farmers procured wheat seed from these societies.

Data regarding detailed information about wheat seed procured from cooperative societies by respondent farmers in last three years has been presented in the Table 2. The data reveals that in 2022, 11.76 per cent of the farmers procured wheat varieties namely PBW 826, PBW 187, HD 3086, while 5.88 per cent of the farmers procured DBW 303 variety. About 320 kg of HD 3086 variety was procured from cooperative societies, followed by 160 kg of PBW 826 and PBW 187, and 80 kg of DBW 303. In the year 2023, 17.65 per cent of the farmers procured 400 kg of PBW 826 variety from cooperative societies, followed by 11.76 per cent farmers who procured 160 kg of DBW 303 variety, and only 5.88 per cent procured 80 kg of DBW 222 variety. None of the farmers procured rice seed from a cooperative society because rice seed was not available. Furthermore, in the year 2021, none of the farmers procured wheat or rice seed.

Satisfaction with wheat seed procured from cooperative society

Understanding farmer satisfaction regarding seed procurement is essential for enhancing agricultural productivity and ensuring food

Table 2. Wheat seed procured from cooperative society in past three years

S.No.	Year	Variety Procured	Percentage	Quantity of Seed Procured (kg)
1	2022	PBW 826	11.76	160
		PBW 187	11.76	160
		HD 3086	11.76	320
		DBW 303	5.88	80
2	2023	PBW 826	17.65	400
		DBW 303	11.76	160
		DBW 222	5.88	80

*Multiple responses

security. The quality, availability, and affordability of seeds directly impact crop yields and, consequently, the livelihood of farmers. In the Figure 2, data regarding the satisfaction of farmers with wheat seed procured from cooperative societies has been presented. The data in the table reveals that 64.71 per cent of the farmers were highly satisfied with the quality of seed, while 17.65 per cent reported that they were moderately and not satisfied with the quality of seed procured from the cooperative society. Further, the data regarding the quantity of seed available with cooperative societies revealed that about 58.82 per cent of the farmers stated that a sufficient quantity of seed was available at the cooperative society, whereas 41.18 per cent of the farmers said that a scarce quantity of seed was available at the cooperative society. Cent per cent of the farmers found the price of seed available at the cooperative society affordable.

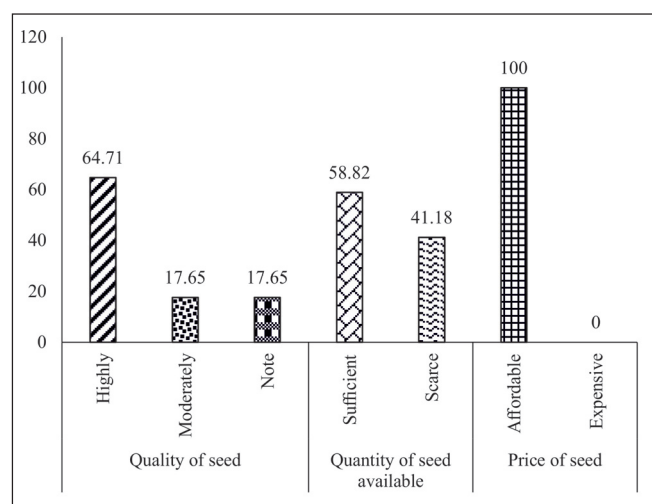


Figure 2. Farmer's satisfaction with wheat seed procured from cooperative society

Problems faced by farmers

The study highlights the problems faced by farmers, focusing on issues such as the late arrival of seeds and the lack of information, purity of seed and regarding seed availability at cooperative societies. Data pertaining to problems faced by farmers in procuring seed from cooperative societies has been presented in the Table 3. About 37.50 per cent of the farmers said that the major problem faced by them was the late arrival of seed in cooperative societies, followed by 33.33 per cent of the farmers who reported a lack of information regarding the availability of seed in cooperative society as a major constraint. About 20.83 per cent of the farmers said unavailability of seed at cooperative society as a major problem, and 1.67 per cent of the farmers stated that seed available with the cooperative societies was impure (mixing of different varieties). Meanwhile, 5.83 per cent of the respondents did not face any problem in the procurement of seed from cooperative societies.

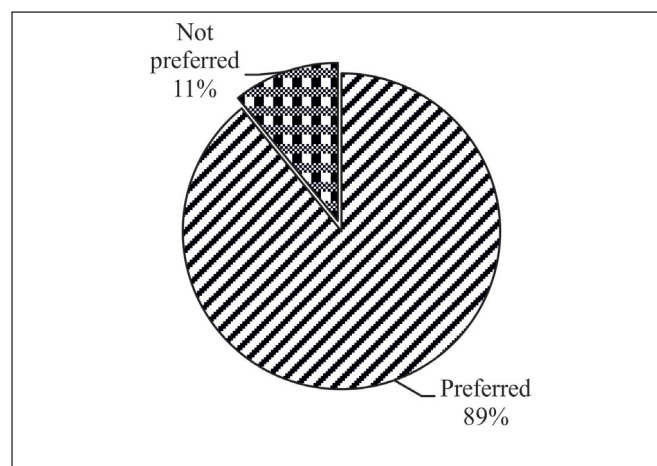
Future preferences for procuring Wheat and Rice seed from Cooperative Society

Understanding farmers' future preferences for seed procurement is vital for improving the efficiency and services of

Table 3. Distribution of respondents on the basis of problems faced by farmers in procuring Wheat seed from Cooperative Society (n=120)

S.No.	Problem	Percentage
1	No problem	5.83
2	Lack of Information regarding availability of seed	33.33
3	Late arrival of Seed in Cooperative Society	37.50
4	Impure Seed (mixing of different varieties)	1.67
5	Unavailability of Seed at Cooperative Society	20.83

*Multiple responses

**Figure 3.** Future preference for procuring seed from cooperative societies

cooperative societies. The Figure 3 illustrates the data regarding future preferences of farmers for procuring wheat and rice seed from Cooperative Society. The majority (89.17%) of the farmers would prefer procuring seed from cooperative societies, while 10.83 per cent of farmers stated that they will not prefer buying seed from cooperative societies.

DISCUSSION

The non-functioning of several cooperative societies was primarily attributed to the accumulation of overdue payments, an inadequate capital base, and a lack of trained staff. The low rate of seed procurement can be explained by the fact that only six cooperative societies were operational, and wheat seed was available at just two of them. The distribution of wheat seed by these cooperative societies was aligned with the farmers' demand and preferences specific to each agroclimatic zone. However, only wheat seeds were available at these cooperatives, despite farmers' preference for procuring rice seeds as well. In 2021, none of the farmers procured wheat or rice seeds due to their unavailability at the cooperative societies. Farmers who were dissatisfied with the quality of seeds mentioned issues such as the mixing of seed varieties or receiving the wrong wheat variety. Since the cooperative societies purchased seeds in limited quantities, those farmers who had close connections with the societies procured the majority of the seeds. This led to dissatisfaction among other farmers, especially those with medium and large land holdings, as the societies could not meet the seed requirements for such extensive holdings. These findings align with Singh & Saluja (2017), who noted that while

chemical fertilizers for agricultural purposes were available to farmers at a fair price, the quantity was often insufficient to meet their needs. Regarding the challenges faced by farmers in procuring seeds from cooperative societies, it was reported that seeds often arrived after the optimal sowing time for the wheat crop. Additionally, cooperative society officials failed to inform farmers about the availability of seeds. Despite these challenges, the majority of farmers expressed a preference for procuring seeds from cooperative societies in the future due to the reasonable prices compared to other sources, such as private seed dealers. This preference highlights the potential for cooperative societies to play a more significant role in seed distribution if the operational issues are addressed.

CONCLUSION

Major challenges included overdue payments, insufficient capital, and a lack of trained staff. Despite 60 per cent of farmers being members, only 8.5 per cent procured wheat seed from these societies. Satisfaction levels were moderate, with issues like late seed arrival and inadequate information. However, 89.17 per cent of farmers expressed a preference for future seed procurement from cooperative societies. Addressing these operational challenges could enhance the role of cooperative societies in seed distribution and support farmers' needs more effectively. Enhancing financial management by addressing overdue payments and strengthening the capital base through better financial planning and support from government or financial institutions is essential. Efficient financial tracking systems should be implemented to ensure timely repayments and avoid debt accumulation. Streamlining the seed distribution process to ensure timely availability, particularly during critical planting periods, and establishing a reliable logistics network are also necessary.

REFERENCES

- Aistara, G. (2011). Seeds of kin, kin of seeds: The commodification of organic seeds and social relations in Costa Rica and Latvia. *Ethnography*, 12(4), 490–517.
- Ali, A. A. (2016). Role of seed and its technological innovations in Indian agricultural sector. *Bioscience Biotechnology Research Communications*, 9, 621–624.
- Choudhary, B. B., & Singh, P. (2019). How unequal is rural Punjab? Empirical evidence from spatial income distribution. *Current Science*, 117(11), 1855–1862.
- Dash, S., Kaur, P., & Kumar, P. (2019). Satisfaction level of farmers regarding custom hiring services through cooperative agricultural service societies (CASSs) in Ludhiana district of Punjab. *International Journal of Farm Sciences*, 9(1), 32–35.
- Hodgkin, T., Rana, R., Tuxill, J., Balma, D., Subedi, A., Mar, I., Karamura, D., Valdivia, R., Collado, L., Latournerie, L., Sadiki, M., Sawadogo, M., Brown, A. H. D., & Jarvis, D. I. (2007). Seed systems and crop genetic diversity in agroecosystems. *Plant Genetic Resources: Characterization and Utilization*, 5(1), 25–37.
- Kavitha, A. (2023). Distribution of fertilizers by cooperative credit societies in Thanjavur district, Tamil Nadu. *Journal of Agricultural Studies*, 12(3), 45–60.
- Ministry of Cooperation. (2023). Cabinet approves setting up of a national level multi-state cooperative seed society under Multi-

- State Cooperative Societies (MSCS) Act, 2002. Retrieved from <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1890322#:~=The%20Union%20Cabinet%2C%20chaired%20by%20the%20Hon%20%80%99ble%20Prime,agencies%20following%20the%20E2%80%98Whole%20of%20the%20Government%20Approach%20%80%99> on 22-03-2024.
- Singh, & Saluja. (2017). Distribution of fertilizer in cooperative marketing system. *International Research Journal of Management and Commerce*, 4(10), 86-96.
- Sperling, L., & Christinck, A. (2005). Developing strategies for seed production and distribution. In A. Christinck, E. Weltzin, & V. Hoffmann (Eds.), *Setting breeding objectives and developing seed systems with farmers* (pp. 153–183). Weikersheim: Margraf Publishers.
- Stromberg, P. M., Pascual, U., & Bellon, M. R. (2010). Seed systems and farmers' seed choices: The case of maize in the Peruvian Amazon. *Human Ecology*, 38(4), 539-553.
- Yashoda. (2017). Role of Primary Agricultural Co-Operative Society (PACS) in agricultural development in India. *Global Journal of Management and Business Research: C Finance*, 17(3), 19-22.