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Hybrid Vegetable Seed Usage in Jammu and Kashmir: Gender Perspective

Sabbey Sharma*, Sudhakar Dwivedi, Shivam Kumar, Ashish Kumar and Bilal Ahmad Sheikh

Sher-e- Kashmir University of Agricultural Sciences & Technology of Jammu (J&K), India
*Corresponding author: sabbeysharma666@gmail.com

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ABSTRACT

Seed is the most fundamental and important ingredient for long-term agriculture. All other inputs respond to seed quality to a considerable amount, and it is believed that quality seed alone contributes 15–20 percent to overall yield, depending on the crop, and that this may be increased to 45 percent with efficient management of other inputs. The present study is aimed to evaluate the gender aspect in using hybrid vegetable seeds in Jammu district. Questionnaires were prepared to collect primary data from farmers. All the respondents were male and there is absolute nil participation of female in decision making regarding hybrid vegetable cultivation.

Keywords: Hybrid vegetable seed, marketing, Jammu and Kashmir

Seed is the most fundamental and important ingredient for long-term agriculture. As a result, our primary concern and emphasis is on producing high-quality seed that allows us to extract more and more from less and less. All other inputs respond to seed quality to a considerable amount, and it is believed that quality seed alone contributes 15–20 percent to overall yield, depending on the crop, and that this may be increased to 45 percent with efficient management of other inputs. In the previous three decades, the government has taken a number of innovative and reformative initiatives to help the country's seed industry flourish. Agriculture is the economic backbone of rural areas. India's agriculture has grown significantly, and we are on the verge of a second green revolution thanks to contemporary agricultural technologies. A good grade seed is the most fundamental and important ingredient for sustainable agriculture. In the world, Indian seed industry is one of the most developed and vibrant, currently ranking sixth with revenue of about 9000 crores. The Indian Seed Industry has grown at a CAGR of 12 percent over the last five years, compared to a global growth rate of 6-7 percent. Increased use of Bt cotton hybrids, single cross corn hybrids, and hybrid vegetables has resulted in significant value growth. Increased Seed replacement rate in crops like paddy and wheat has accounted for the majority of the volume increases. The Indian seed business is changing dramatically, with private seed companies playing a major role, international seed companies entering the market, Indian enterprises forming joint ventures with multinational seed companies, and consolidations. For the next four years, Indian seed industry is expected to develop at a CAGR of 17 pecent (Singh Jogendra *et al.* 2019). The present study is conducted to explore the cultivation of

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hybrid vegetables in Jammu district of Jammu and Kashmir, India.

Indian seed market

From 2011 to 2018, the Indian seed market was expected to be valued 4.1 billion dollars, with a compound annual growth rate of 15.7 percent. From 2019 to 2024, it is expected to grow at a CAGR of 13.6 percent, culminating in a market value of $9.1 billion. India's seed business is experiencing new ideal models of growth and improvement, thanks to rising local interest and demand for high-quality seeds in various far-flung nations, particularly in Southeast Asia. The seed's image in India has changed over time. Indian agriculture formerly relied on seeds left over from earlier harvests. The most radical seeds created by seed groups are already invading ranchers' crops. The wonder has established itself amid the ever-changing aspects of horticulture in India and throughout the world (Indiaeconomicstrategy.dfat.gov.au).

The Indian seed industry has grown rapidly and should continue to do so, allowing agriculture production to expand even further. The seed industry's role is to create a sufficient number of high-quality seeds while simultaneously achieving varietal variety. As Indian lifestyles and diets improve, companies that develop, manufacture, and market seeds will prosper. Farmers now have money in their hands and want to spend it on seeds that yield quicker, better harvests from the same kerchief-sized plots. With rising vegetable consumption, vegetable farmers and producers anticipate a brighter future. However, this increased output must be done with current or reduced land, water, labor, and other inputs, all while minimizing environmental impact. Among the few options for increasing vegetable production and productivity, the adoption of excellent quality seeds looks to be a realistic and easily adopted alternative for meeting future requirements. The number of players in the vegetable seed business is gradually increasing as they see a brighter future. The number of participants in the vegetable seed sector is progressively rising as they perceive a brighter future. Maintaining a consistent supply and distribution network of high-quality seeds is critical for achieving success in this competitive environment. With the aid of a distribution network analysis of hybrid vegetable seeds, a firm may determine its strengths and weaknesses, allowing it to capitalize on its strengths while overcoming its weaknesses.

India hybrid vegetable seed market

Vegetable hybridization-driven increase was considerable in the previous decade. Hybrid vegetable output has increased from 88.62 million metric tons in 2001-02 to 178.17 million metric tons in 2016-17. Tomatoes, okra, and gourds, for example, accounted for a substantial percentage of the country's overall hybrid vegetable seed value in 2018, accounting for 9 percent, 15 percent, and 11 percent, respectively. In the same year, vegetable hybrid seeds were valued at USD 397.21 million. Furthermore, the Indian government is promoting the use of hybrid seeds in vegetable production by assuring the availability of high-quality seeds, bridging the knowledge gap among farmers about improved practices, and creating supportive infrastructure in the nation (Cheema *et al.* 2004). As a result, government assistance in the form of different policies and product launches by industry participants are expected to boost market growth over the forecast period (Globenews wire.com).

MATERIALS AND METHODS

The present study is carried in Jammu district of Jammu and Kashmir, the sampling design adopted in the study was Stratified random sampling technique. Stratified sampling is based on grouping units into subpopulations called strata and then using a hierarchical structure of units within each stratum. The present study utilizes primary data for addressing the specific objectives of the study. The primary data for the present study were collected through questionnaire, containing general demographic data, education level and information concerning income and growth expectations.

RESULTS AND DISCUSSION

Age of the farmers

Out of 40 farmers, 8 farmers under the age group of 30 - 41 years, 26 farmers at the age group of 42–67 years and 6 farmers with age group of 68 years and above (Fig. 1 and Table 1).

Table 1: Age of the farmers

Age	Number of Farmers	Percentage
30-41	8	20.00
42-67	26	65.00
68 years & above	6	15.00
Total	40	100.00

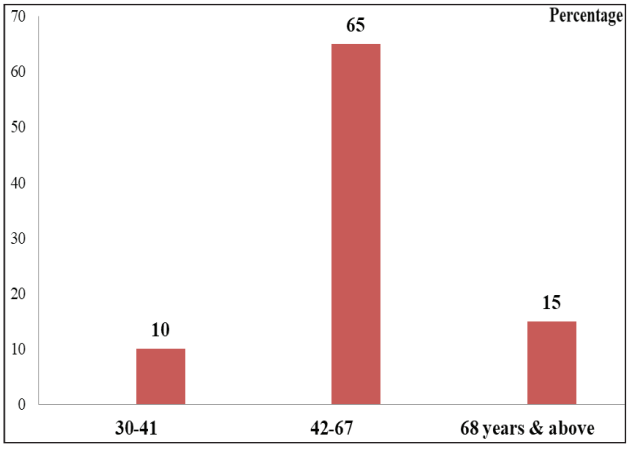

Fig. 1: Age of the farmers

Land holding of farmers (in ha)

Out of the 40 farmers, 8 farmers were marginal, who had less than one ha land, 18 farmers were small and who had 1-2 ha land and 13 farmers were medium, who had 2-4 ha land, followed by only 1 farmer was large who had more than 4 ha land (Fig. 2 and Table 2).

Table 2: Total land holding of farmers (in ha)

Total Land Area (in ha) (n=40)	Number of Farmers	Area (in ha)	Percentage
Marginal Farmers (Less than 1 ha)	8	5.4	20.00
Small Farmers (1-2 ha)	18	23.85	45.00
Medium Farmers (2-4 ha)	13	29.85	32.50
Large Farmer (4-10 ha)	1	5	2.50
Total	**40**	**64.1**	**100.00**

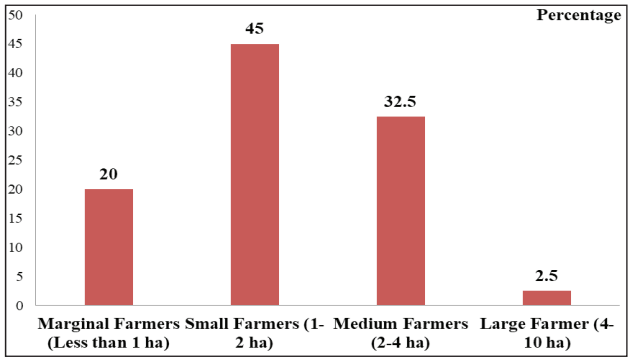

Fig. 2: Total land holding of the farmers

Land under hybrid vegetable crops (in ha)

Out of 40 farmers, 37 farmers were marginal who had less than 1 hectare cultivated land under hybrid vegetable crops and 3 farmers were small farmers who had 1-2 hectare cultivated land under hybrid vegetable crops (Table 3 and Fig. 3).

Table 3: Farmers land area under hybrid vegetable crops (in ha)

Area under Vegetable (in ha) (n=40)	Number of Farmers	Area (in ha)	Percentage
Marginal Farmers (Less than 1 ha)	37	15.15	92.50
Small Farmers (1-2 ha)	3	3	7.50
Total	**40**	**18.15**	**100.00**

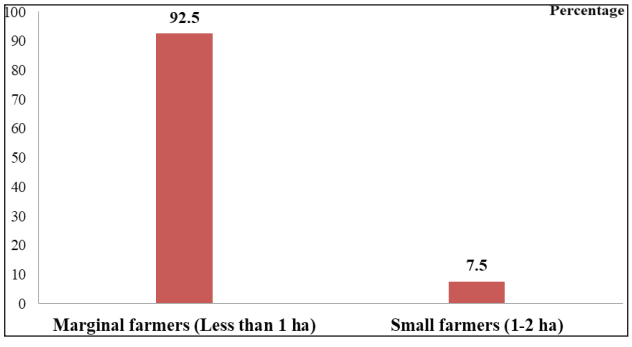

Fig. 3: Land under hybrid vegetable crops (in ha)

Gender of the farmers

All the respondent farmers under the study were male and there were no female representatives in sharing the responses regarding use of hybrid vegetable seeds.

CONCLUSION

The present study explored that the farmers were mainly marginal who had less area under hybrid vegetable crops. The female farmers' representation in terms of adoption of hybrid vegetable seeds is zero. This represents complete dominance of male in decision making regarding vegetable cultivation in Jammu district of Jammu and Kashmir.

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