



Socio-economic Status of Sorghum Variety Parbhani Shakti Adopter and Non-adopter in Parbhani District of Marathwada Region

Vishal M. Kamble^{1*}, Digamber S. Perke² and Tukaram B. Munde³

¹M.Sc. Student, Department of Agricultural Economics,
College of Agriculture, Parbhani (Maharashtra), India.

²Head and Associate Professor, Department of Agricultural Economics,
College of Agriculture, Parbhani (Maharashtra), India.

³Teaching Associate, Department of Agricultural Economics,
College of Agriculture, Parbhani (Maharashtra), India.

(Corresponding author: Vishal M. Kamble*)

(Received 27 November 2023; Accepted 06 January 2024)

(Published by Research Trend, Website: www.researchtrend.net)

ABSTRACT: This study focuses on the socio-economic conditions of the sorghum growers of the Parbhani district of Maharashtra state. It helps policymakers tailor agricultural policies to address specific needs and challenges within different communities. For this study, an interview schedule was prepared. The independent variables are different socio-economic characteristics including age, education, landholding, family type, farm size, family size, family income occupation, social participation, livestock size etc. The study was conducted in two blocks in the Parbhani district of Maharashtra. A total of 120 respondents were selected for the study i.e. 60 adopter and 60 non adopter. The data showed that the age range between adopters and non-adopters was 44-47 years. In terms of educational background, it was observed that majority of respondents had completed secondary education. It is evident from findings that the majority of respondents were small and semi medium farmers average land holding of adopter and non-adopter was 2.43 ha and 1.93 ha, respectively. The majority of adopters 81.66 per cent and non-adopters (70 per cent) are members of the nucleus family, whereas just 18.33 per cent of adopters and 30 per cent of non-adopters in the study region are members of the joint family. The average family size of adopter and non-adopter was 6.08 and 6.68, respectively. 81.66 per cent of adopters and 80 per cent of non-adopters had agriculture as their primary occupation. The study's findings demonstrated that adopters of Parbhani Shakti had higher average levels of social participation 0.85, compared to 0.32 for non-adopters and average livestock size of adopter and non-adopter was 3.53 and 2.08.

Keywords: Socio-economic variables, education, majority, respondents.

INTRODUCTION

Cereals have been considered as the principal component of human dietary source as almost half of the daily calorie absorption is derived from its consumption. Sorghum (*Sorghum bicolor* (L). Moench) belong to the family Poaceae is the fifth most important cereal crop following rice, wheat, maize and barley that serves as staple food for in addition 500 million people across the globe and also as a fodder crop. It is deriving in East Central Asia, Ethiopia and its nearby provinces or Sudan because of the realistic diversity of assorted varieties growing in that region.

United States of America ranks first in sorghum production with 8.67 million tonnes followed by Niger (6.66 million tonnes), Ethiopia (5.26 million tonnes), and Mexico 4.3 million tonnes, Sudan produced 3.71 million tonnes, while India produced 3.47 million tonnes, accounting for 15, 11.51, 9.09, 7.52, 6.22, and 6 per cent of the 57.90 million tonnes produced globally

in 2019 to 20. According to USDA estimates, there will be 65.21 million tonnes of sorghum produced globally in 2021 to 22, covering 41.97 million hectares (103.70 million acres). The corresponding estimates for India were 4.80 million hectares (11.86 lakh acres) and 4.60 million tonnes. India ranked seventh in production and third in jowar area during 2019 to 2020. [Vaanakalam (Kharif) 2021-2022 pre harvest price for-cast of jowar] As of 2021, India's area planted with jowar in 2021 to 2022 was 13.64 lakh hectares, down from 14.12 lakh hectares in 2020 to 2021. Rajasthan was the largest state, with 5.88 lakh ha, followed by Uttar Pradesh with 2.06 lakh ha, Maharashtra with 2.04 lakh ha, Madhya Pradesh with 1.53 lakh ha, and Tamil Nadu with 0.87 lakh ha, all of which contributed to 90 per cent of the total area of the nation. Uttar Pradesh also had 2.67 lakh ha, Maharashtra had 2.04 lakh ha, Madhya Pradesh had 1.030 lakh ha, and Tamil Nadu had 0.87 lakh ha. The Government of India's third advance projections for 2020 to 21 show that sorghum output will be 4.80

million tonnes, up from 4.77 million tonnes the year before (USDA, 2022).

The use of local maize varieties, lack of technical knowledge among the growers along with inefficient use of resources were the major challenges that were faced by 11.25 per cent of the maize growers (Sharma *et al.*, 2022). The data reveals the socioeconomic status of the cotton growers of Marathwad region which will further help policy makers and other stakeholders in decision making and agricultural and rural development (Ambhure *et al.*, 2023).

India's first biofortified sorghum (jowar), with significantly higher iron and zinc than regular sorghum, was developed by ICRISAT it was released for cultivation by Vasant Rao Naik Marathwada Krishi Vidyaapeeth (VNMKV), Maharashtra. The improved variety ICSR 14001, released as 'Parbhani Shakti' by VNMKV, offers a cost-effective and sustainable solution to address micronutrient deficiency. An MoU was signed today between ICRISAT and VNMKV for large-scale seed production and dissemination. (ICRISAT)

This improved sorghum variety was developed by ICRISAT under the Harvest Plus sorghum biofortification project and was tested as PVK 1009 in Maharashtra state and in All India Co-ordinated Sorghum Improvement Project (AICSIP) Trials. It was released as a rainy season variety (Kharif) but it can be grown in post-rainy (Rabi) and summer seasons. The yield levels are higher (>5.0 t ha⁻¹) in post-rainy and summer seasons with irrigation. (ICRISAT)

Objective: To study socio-economic characteristics of parbhani shakti adopter and non-adopter.

METHODOLOGY

The sample comprised 120 respondents from six different villages of the Parbhani district of Maharashtra state. Data were collected through a personal interview schedule for research. Descriptive graph statistics of all the respondents were compared through appropriate software. Frequency, percentage, means, ranks order were the main statistical tools that were used in this study. A list of independent variables for the present study was selected. These independent variables were more relevant and significant as per the

objective included in the present study was selected. These were: age, education, landholding, family size, occupation, annual income, family size, family type, social participation and livestock size of the respondent.

RESULTS AND DISCUSSIONS

Age. Age is a significant component that influences farmer mentality in a variety of ways, which in turn affects managerial aptitude, expertise, and judgment in the business world. The table shows that the age range between adopters and non-adopters was 44–47 years on average. Chapke *et al.* (2016) concluded that the majority of the farmers (61%), who were growing sorghum were in their middle age (30-50 years).

Education. According to the Table 1, illiteracy rates were 16.67% among adopters and 41.66% among non-adopters.; 23.33 per cent of adopter's and 15 per cent of non-adopters had only completed elementary education; and 18.33 per cent of adopters and 16.66 per cent of non-adopters had completed secondary education.

The survey also showed that 15.3 per cent of adopters and 18.33 per cent of non-adopters had completed higher secondary school, and that 26.67 per cent of adopters and 8.33 per cent of non-adopters had graduated. Bhabhor *et al.* (2019) majority of respondents has primary education to higher secondary education.

Farming experience. The data illustrated that adopters and non-adopters had 18 to 26 years of farming experience, indicating that Parbhani Shakti adopters had a lot of farming expertise. Digambar *et al.* (2020) reported 65.97 per cent respondents had high farming experience (above 20 years)

Occupation. The profession reveals a person's area of interest in the industry. He so made an effort to see that venture through to completion. According to the Table 1, agriculture accounted for 81.66 per cent of the occupations of adopters and 80 per cent of non-adopters. However, the primary activity of 6.66 per cent of adopters and 11.66 per cent of non-adopters was business. On the other hand, 11.67 per cent of non-adopters and 6.67 per cent of Parbhani Shakti adopters worked in the service industry. This outcome was corroborated with Thangaraja *et al.* (2008).

Table 1: Socio economic characteristics of respondents.

Sr. No.	Particulars	Adopter		Non adopter	
		N=60	Per cent	N=60	Per cent
1)	Age	44.2	-	47.15	-
2)	Education	-	-	-	-
a)	Illiterate	10.00	16.67	25.00	41.66
b)	Primary	14.00	23.33	9.00	15.00
c)	Secondary	11.00	18.33	10.00	16.66
d)	Higher secondary	9.00	15.00	11.00	18.33
e)	Graduate	16.00	26.67	5.00	8.33
	Total	60.00	100.00	60.00	100.00
3)	Farming experience	26	-	18.75	-
4)	Occupation	-	-	-	-
a)	Agriculture	49	81.66	48	80
b)	Service	7	11.66	5	8.33

c)	Business	4	6.66	7	11.66
	Total	60	100	60	100
5)	Family income	213116.7	-	166950	-
6)	Family size	6.11	-	6.51	-
7)	Farm size	-	-	-	-
a)	Marginal	3	5	7	11.66
b)	Small	17	28.33	32	53.33
c)	Semi medium	36	60	18	30
d)	Medium	1	1.66	2	3.33
e)	Large	3	5	1	1.66
	Total	60	100	60	100
8)	Family Type	-	-	-	-
a)	Joint	11	18.33	18	30
b)	Nucleous	49	81.66	42	70
	Total	60	100	60	100
9)	Social Participation	0.85	-	0.30	-
10)	Livestock	-	-	-	-
a)	Draft animals	0.5	14.16	0.42	20.19
b)	Cows	1.4	39.66	0.78	37.5
c)	Buffaloes	0.53	15.01	0.48	23.07
d)	Goat	1.1	31.16	0.3	14.42
	Total	3.53	100	2.08	100

Family income. As shown in Table 1 the annual household income of adopters of parbhani shakti and those of non-adopters is 213116.7 and 166950, respectively. Ghuge *et al.* (2015) was found that majority 83.33 per cent of the respondents had medium annual income (Rs 34663 to 532988)

Family size. As per Table 1 the parbhani shakti adopter average family size was 6.05. The average non-adopter family size was 6.68, Six members of the adopter and non-adopter families were listed Dhruw *et al.* (2012). The maximum (50.00%) number of the respondents had medium size of family

Farm size. The bulk of the farmers in the research region, or 5 per cent of the adopters and 11.67 per cent of the non-adopters, was small farmers, according to the study's findings.

In all, 60 per cent of adopters and 30 per cent of non-adopters was semi medium farmers, whereas 28.33 per cent of adopters and 53.33 per cent of non-adopters was small farmers. As shown in Table 1, only 5 per cent of adopters and 1.66 per cent of non-adopters was large farmers, while 1.66 per cent of adopters and 3.33 per cent of non-adopters was medium farmers. The bulk of the famers possessed little amounts of land for farming operations, according to the data Lakra *et al.* (2012). Maximum number of the respondents were having medium size of land holdings

Family Type. According to the study findings, the majority of adopters 81.66 per cent and non-adopters 70 per cent are members of the nucleus family, whereas just 18.33 per cent of adopters and 30 per cent of non-adopters in the study region are members of the joint family. Also reported by Thangaraja *et al.* (2008).

Social Participation. The study's findings demonstrated that adopters of Parbhani shakti had higher average levels of social participation 0.85, compared to 0.32 for non-adopters.

Livestock size. A parbhani shakti adopter had an average of 3.38 animals, of which 14.19 per cent were bullock pairs, 36.98 per cent were cows, 32.54 per cent

were goats, and 15.68 per cent were buffaloes, 2.12 livestock were kept by the non-adopters, comprising 26.42 per cent bullock pairs, 36.79 per cent cows, 14.15 per cent goats, and 22.64 per cent buffaloes.

CONCLUSIONS

The outcomes of this study suggest that the majority of the sorghum growing farmers of Parbhani district belonged to middle age group, educated up to secondary level, had medium annual income with large size of family and majority of them belonged to nucleus family, had small land holding, medium extension and low social participation, majority of respondents has farming as main occupation and had 18 to 26 years of farming experience. Socio- economic parameters of sorghum farmers reveals that there is a scope for further improvement in socio-economic status, which ultimately leads to a greater extent for adopting modern technologies in sorghum cultivation. This study is also useful for policy- makers so that they should make policy by keeping in mind these conditions of farmers.

Policy Implication. It was found that majority of adopter and non-adopter respondents had medium level of socio-economic status. Governments can uplift the socioeconomic status of farmers through various policies and initiatives. These may include providing access to affordable credit and insurance, investing in rural infrastructure like roads and irrigation, offering subsidies for modern farming equipment and technology, facilitating better market access through improved transportation and storage facilities, supporting agricultural education and training programs.

REFERENCES

- Ambhure, A. L., Suman, S. and Saha, S. (2023). A Study on Socio-economic Status of Bt Cotton Growers of Marathawad Region of Maharashtra. *Biological Forum – An International Journal*, 15(10), 478-481.

- Anonymous (2021). Vaanakalam (Kharif) 2021-2022 pre harvest price for-cast of jowar
Anonymous Salient feature of Parbhani shakti Available at <https://www.icrisat.org>.
- Bhabhor, G. K., Patel, U. M., & Makwana, N. D. (2019). Association between personal profile and adoption of improved rabi maize production technology by tribal rabi maize growers. *Gujarat Journal of Extension Education*, 30(2), 166.
- Chapke, R. R., Rakshit, S., Mishra, J. S., & Patil, J. V. (2016). Factors associated with sorghum cultivation under rice fallows. *Indian Research Journal of Extension Education*, 11(3), 67-71.
- Dhruw, K. S., Sengar, R. S., Yadaw, K. N., & Suryawanshi, R. K. (2012). Analysis of socio-economic profile of maize growers in kanker district of Chhattisgarh. *Journal of Plant Development Sciences*, 4(2), 235-240.
- Digambar, B. M., Khan, M. A., & Singh, A. (2020). Socio-economic profile of farmers on rice production technology in Rajnandgaon district of Chhattisgarh. *Journal of Pharmacognosy and Phytochemistry*, 9(2), 137-140.
- Ghuge, S. N., Kadam, R. P., & Pawar, G. S. (2015). Technological gap in kharif sorghum (*Sorghum bicolor* L.) Production technologies in Marathwada region. *The Journal of Research Pjtsau*, 43(4), 22.
- Lakra, P. K., Chaturvedi, M. K., Yadaw, K. N., & Verma, L. R. (2012). Socio-economic status of hybrid rice growers in Surguja district of Chhattisgarh. *Journal of Plant Development Sciences*, 4(4), 511-516.
- Sharma, S., Singh, S. P., Singh, M., & Kumar, S. (2022). Socio-Economic Status of Maize Growers in Udhampur District of Jammu Region. *International Journal of Theoretical & Applied Sciences*, 14(2), 23-25.
- Thangaraja, K., Karthikeyan, C., Asokhan, M., & Rajasekaran, R. (2008). Socio-economic characteristics of the dryland farmers in Dindigul district of Tamil Nadu. *Madras Agricultural Journal*, 95(1-6): 120-128
- World Scenario of Sorghum Available at United States of Agriculture Department 2022.