



SOCIO-ECONOMIC CHARACTERISTICS OF CERTIFIED PADDY SEED PRODUCERS IN KOLHAPUR DISTRICT OF MAHARASHTRA

GAURAV RATHOD^{1*}, JADHAV¹, JB PATIL², HR SHINDE¹, OMKAR BENDRE¹,
BJ DESHMUKH¹, POOJA HARISH¹, SHITAL HANGE¹ AND KURUVA PARUSHARAM¹

¹Agricultural Economics, Department of Agricultural Economics, RSCM College of Agriculture, Mahatma Phule Krishi Vidyapeeth, Rahuri, India. E-mail: gauravrathod1317@gmail.com

²Agricultural Economics, Department of Agricultural Economics, RSCM College of Agriculture, Mahatma Phule Krishi Vidyapeeth, Rahuri, India

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Abstract: The socioeconomic traits of certified paddy seed producers in the Kolhapur district of Maharashtra state were the subject of the current study, which was carried out in the year 2021-22. This study explores the socio-economic characteristics of certified paddy seed farmers, analyzing data related to age, education, family size, and occupation. The average family size is 5.53 members, with 79.03% actively involved in farm work. The average age varies among small, medium, and large groups, with an overall average of 46.21 years. Education levels show diverse patterns across groups, with a significant proportion having education up to higher secondary levels. Farming is the primary occupation for 66.67% of farmers, with some engaging in subsidiary businesses or service sectors. Land utilization reveals an average landholding of 2.25 hectares, with cropping intensity increasing progressively across farm sizes. Certified paddy seed farmers cultivate an average of 2.12 hectares, with diverse cropping patterns across seasons. The study sheds light on the demographic, educational, and agricultural practices of certified paddy seed farmers, offering valuable insights for policymakers and researchers in the agricultural sector.

INTRODUCTION

In India's rural areas, agriculture is the primary activity that generates both revenue and employment. In India's 328.7 million hectares of land, more

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than 140 million hectares are utilized for agriculture. Along with agriculture, maintaining livestock is a major activity for the rural population of India

Paddy has been cultivated for centuries. Linguistic studies of Sanskrit and various languages in Southeast Asia suggest that paddy was known in India prior to the current era. India and Myanmar are considered the likely centre of origin for cultivated paddy, giving rise to different paddy species.

Paddy is a crucial food crop for approximately 50 per cent of the population in Asia, where 90 per cent of the world's rice is both grown and consumed (Debi Sita et al, 2009). India is the world's second-largest producer of rice, accounting for 23.47 per cent of global production, covering 32.16 per cent of the top ten rice-producing countries worldwide (Agriculture Statistics at Glance 2015). In terms of rice cultivation, West Bengal leads with an area of 6.17 million hectares, followed by Andhra Pradesh with 5.90 million hectares. In terms of rice production, West Bengal is the top producer, yielding 13.095 million tonnes. In terms of productivity, Andhra Pradesh ranks first with 2.6 tonnes per hectare. Maharashtra, ranking sixth, has a lower productivity of only 1.56 tonnes per hectare, contributing just 3 per cent to India's total rice production, despite cultivating an area of 15.38 lakh hectares, which yielded 23.97 lakh tonnes.

METHODOLOGY

Certified seed production of paddy especially varieties Indrayani, Phule Samrudhi, Bhogavati and Ratnagri-1 are mostly popular and taken by the farmers in the Kolhapur district of Maharashtra. The area of Kolhapur district is suitable for certified seed production of paddy of varieties Indrayani, Phule Samrudhi, Bhogavati and Ratnagri-1. Maharashtra stands thirteenth in area (1.65 million hectares) with production (3.68 million tons) and productivity (1961 kg/ha). (Source DAC & FW, 2018-19). Indrayani, Phule Samrudhi, Bhogavati and Ratnagri-1 variety is mostly suitable in the region Therefore, Kolhapur district was selected purposively for the present study. Secondly, two Tehsil viz. Karvir and Radhanagari were selected on the basis of higher area under certified paddy seed production. The four villages from each tahsil were selected on the basis of higher area under certified paddy seed production; data was collected from different size groups by using the well-structured questionnaire. The list of certified paddy seed farmers along with their operational area and area under Indrayani, Phule Samrudhi, Bhogavati and Ratnagri-1 cultivation for each of the selected villages were prepared on the

basis of information obtained from MSSC office Kolhapur. The certified paddy seed farmers were arranged in descending order of their area under paddy cultivation for each of the selected villages and farmers from each village were categorized by three predetermined size classes (ie. area under paddy Indrayani, Phule Samrudhi, Bhogavati and Ratnagri-1 cultivation) viz., Group I (below 0.20ha). Group II (0.21 to 0.40ha) and Group III (0.41 ha and above). Thereby a total of 15 farmers for each village were selected randomly. Thus, the total sample size for the study consists of 120 certified paddy seed-producing farmers comprising 40 small, 40 medium, and 40 large farmers divided into 30 farmers of each variety Indrayani, Phule Samrudhi, Bhogavati and Ratnagri-1 irrespective of area size were selected for the present study Topics related to the milk production; data was collected from different size groups by using the well-structured questionnaire.

The collected data was examined using basic analytical methods such as percentages and averages, and the results are shown below.

RESULTS AND DISCUSSION

1. Family Size and Age

Table 1 provide valuable socio-economic data concerning certified paddy seed farmers. The information covers various aspects, including age, education, family size, and occupation, offering insights into the demographic and economic characteristics of these farmers.

Family size plays a significant role in determining the availability of farm labour. According to the data presented in Table 4.1, the average family size of certified paddy seed farmers, when considering all groups collectively, was 5.53 family members. This family composition comprised 42.27 per cent males, 34.03 per cent females, and 23.70 per cent children. Notably, approximately 79.03 per cent of family members were actively involved in farm work. The average age of seed-producing farmers varied across small, medium, and large groups, with respective average ages of 43.85, 47.82, and 46.95 years. When considering all certified paddy seed farmers as a whole, the overall average age stood at 46.21 years.

2. Educational Status

When considering certified paddy seed farmers in a small group, approximately 31.10 per cent of them had received education up to the primary level, 18.77

per cent had completed their secondary education, 27.16 per cent had reached the higher secondary school level, 8.15 per cent had attained graduate-level education, and 13.83 per cent were found to be illiterate. In the case of a medium-sized group of certified paddy seed farmers, 32.74 per cent had education up to the primary level, 22.12 per cent had achieved a secondary level education, 25.13 per cent had reached the higher secondary level, 11.86 per cent had completed a degree level education, and 8.14 per cent of the farmers were illiterate. For the large-sized group of seed farmers, the data indicated that 32.23 per cent had education up to the primary level, 23.64 per cent had attained a secondary level education, 26.50 per cent had reached the higher secondary level, 13.61 per cent had completed a degree level education, and 4.01 per cent were illiterate among the certified paddy seed farmers. When considering the data across all seed-producing farmers, the overall percentages were 32.36 per cent for those with education up to the primary level, 21.51 per cent for those with education up to the secondary level, 26.27 per cent for those with education up to the higher secondary level, 11.21 per cent for those with graduation-level education, and 8.66 per cent were found to be illiterate. Similar findings were observed in the results of the study carried out by Hile and Patil (2009).

3. Occupational Pattern

When considering all certified paddy seed farmers collectively, the majority, accounting for 66.67 per cent had farming as their primary occupation without any subsidiary source of income. About 12.50 per cent of certified seed farmers had farming as their primary occupation while engaging in a subsidiary business. Additionally, 15 per cent of the farmers had a main occupation in the service sector, alongside farming as a subsidiary occupation. A smaller fraction, approximately 5.83 per cent had their primary occupation in business, and they also engaged in farming as a subsidiary occupation within the certified paddy farmers group. In summary, the majority of certified paddy seed farmers had farming as their primary occupation, with a significant portion solely relying on it, while a smaller proportion supplemented farming with subsidiary sources of income, primarily in business, service, or both sectors. Similar findings were observed in the results of the study carried out by Mula et al. (2019)

4. Land Utilization

The data from Table 4 reveals that certified paddy seed farmers, on average, possess a land holding of approximately 2.25 hectares. Within this landholding,

there is an allocation of 0.12 hectares for permanent fallow land, indicating areas of land that are not currently under cultivation. The net cropped area, which signifies the actual land used for cultivation, accounts for 2.13 hectares of the total land holding. In contrast, the gross cropped area, encompassing all the land that is actively cultivated, spans 3.82 hectares. Moreover, the cropping intensity, a measure of how intensively the land is utilized for farming, was calculated at 177.88% for certified paddy seed farmers when considering the overall data. These findings provide valuable insights into the land use and cultivation practices specific to certified paddy seed farming. The data indicates a progressive rise in cropping intensity, with the small group showing the lowest value at 169.73 per cent, followed by the medium-sized group at 178.81 per cent, and the large group displaying the highest cropping intensity at 186.83 per cent.

5. Cropping Pattern

Certified paddy seed farmers, on average, cultivated 2.12 hectares of land. In the realm of certified seed production, the farmers were divided into small, medium, and large size groups, with respective average cropped areas of 1.52 hectares, 2.03 hectares, and 2.81 hectares. Paddy cultivation constituted 11.04 per cent of the total gross cropped area.

During the kharif season, groundnut and soybean were the predominant crops on these seed farms, occupying 9.00 per cent and 7.92 per cent of the total gross cropped area, respectively. In the rabi season, wheat, gram, and jowar took precedence, making up 9.11 per cent, 8.94 per cent, and 6.79 per cent of the total gross cropped area, respectively. During the summer season, farmers also engaged in the cultivation of groundnut and fodder-purpose maize, which comprised 8.79 per cent and 6.42 per cent of the total gross cropped area in seed farms, respectively. Additionally, sugarcane, a perennial crop, was grown by certified paddy seed farmers, covering 27.24 per cent of the total gross cropped area. In total, the seed farms had a gross cropped area of 3.82 hectares, and the cropping intensity for certified seed production was determined to be 178.45 per cent at the overall level. The gross cropped area demonstrated an upward trend corresponding to farm size with small, medium and large size farms was 2.58, 3.63 and 5.25 hectares respectively. The data indicates a progressive rise in cropping intensity, with the small group showing the lowest value at 169.73 per cent, followed by the medium-sized group at 178.81 per cent, and the large group displaying the highest cropping intensity at 186.83 per cent.

Table 1: Family Size and its Composition

(Numbers)

Sr No.	Particulars	Size Group			
		Small	Medium	Large	Overall
1	Family Size				
i)	Male	1.85 (45.68)	2.25 (39.82)	2.85 (41.30)	2.32 (42.27)
ii)	Female	1.25 (30.86)	2.1 (37.17)	2.35 (34.06)	1.90 (34.03)
iii)	Children	0.95 (23.46)	1.3 (23.01)	1.70 (24.64)	1.32 (23.70)
	Total	4.05 (100)	5.65 (100)	6.90 (100)	5.53 (100)
2)	Members working on Farm	2.97 (73.33)	4.50 (79.64)	5.65 (81.88)	4.73 (79.03)
3)	Age (Years)	43.85	47.82	46.95	46.21

(Figures in parentheses indicate percentage to the total)

Table 2: Educational Status of Certified Paddy Seed Farmers

(Numbers)

Sr. No.	Particulars	Size Groups			
		Small	Medium	Large	Overall
1	Up to Primary	1.30 (32.10)	1.85 (32.74)	2.25 (32.23)	1.80 (32.36)
2	Up to Secondary	0.76 (18.77)	1.25 (22.12)	1.65 (23.64)	1.22 (21.51)
3	Up to Higher Secondary	1.10 (27.16)	1.42 (25.13)	1.85 (26.50)	1.46 (26.27)
4	Up to Degree	0.33 (8.15)	0.67 (11.86)	0.95 (13.61)	0.65 (11.21)
5	Illiterate	0.56 (13.83)	0.46 (8.14)	0.28 (4.01)	0.43 (8.66)
	Total	4.05 (100.00)	5.65 (100.00)	6.98 (100.00)	5.56 (100.00)

(Figures in parentheses indicate the percentage of the total)

Table 3: Occupational Pattern of Certified Paddy Seed Farmers

(Numbers)

Sr. No.	Particulars	Size Group			
		Small	Medium	Large	Overall
1	Farming	29 (72.50)	26 (65.00)	25 (62.50)	26.67 (66.67)
2	Farming + Business	4 (10.00)	5 (12.50)	6 (15.00)	5 (12.50)
3	Service + farming	5 (12.50)	7 (17.50)	6 (15.00)	6 (15.00)
4	Business + farming	2 (5.00)	2 (5.00)	3 (7.50)	2.33 (5.83)
	Total	40 (100)	40 (100)	40 (100)	40 (100)

(Figures in parentheses indicate percentage to the total)

Table 4: Land Utilization Pattern of Certified Paddy Seed Farmers

(Area in Hectares)

Sr. no.	Particulars	Small	Medium	Large	Overall
1	Total land holding	1.62 (100)	2.13 (100)	2.99 (100)	2.25 (100.00)
2	Permanent fallow	0.1 (6.17)	0.09 (4.22)	0.18 (6.02)	0.12 (5.47)
3	Net cropped area	1.52 (93.82)	2.03 (96.24)	2.81 (93.97)	2.12 (94.68)
4	Gross cropped area	2.58	3.63	5.25	3.82
5	Cropping intensity (%)	169.73	178.81	186.83	177.88

(Figures in parentheses indicate the percentage of the total)

Table 5: Cropping Pattern of Certified Paddy Seed Farmers

Sr. No.	Particulars	Size Group			
		Small	Medium	Large	Overall
A	Kharif Season				
1	Paddy	0.19 (7.36)	0.36 (9.92)	0.83 (15.81)	0.46 (11.04)
2	Soybean	0.15 (5.81)	0.34 (9.37)	0.45 (8.57)	0.31 (7.92)

Sr. No.	Particulars	Size Group			
		Small	Medium	Large	Overall
3	Groundnut	0.30 (11.63)	0.49 (13.50)	0.63 (1.87)	0.47 (9.00)
	Subtotal	0.64 (24.8)	1.19 (32.78)	1.91 (36.78)	1.25 (31.32)
B	Rabi Season				
1	Wheat	0.18 (6.98)	0.35 (9.64)	0.56 (10.67)	0.36 (9.11)
2	Gram	0.22 (8.53)	0.36 (9.92)	0.44 (8.38)	0.34 (8.94)
3	Jowar	0.24 (9.30)	0.18 (4.96)	0.32 (6.10)	0.25 (6.79)
	Subtotal	0.64 (24.81)	0.89 (24.52)	1.32 (25.14)	0.95 (24.82)
C	Summer Season				
1	Groundnut	0.19 (7.36)	0.40 (11.02)	0.42 (8.00)	0.34 (8.79)
2	Fodder maize	0.21 (8.14)	0.21 (5.79)	0.28 (5.33)	0.23 (6.42)
	Subtotal	0.40 (15.50)	0.61 (16.80)	0.92 (17.52)	0.64 (16.84)
D	Perennial Crops				
1	Sugarcane	0.90 (34.88)	0.94 (25.90)	1.10 (20.95)	0.98 (27.24)
	Subtotal	0.90 (34.88)	0.94 (25.90)	1.10 (20.95)	0.98 (20.95)
	Gross cropped area	2.58 (100.00)	3.63 (100.00)	5.25 (100.00)	3.82 (100.00)
	Net cropped area	1.52	2.03	2.81	2.12
	Cropping intensity%	169.73	178.81	186.83	177.88

(Figures in parentheses indicate the percentage to the total gross cropped area)

CONCLUSIONS

The average family size among farmers was notably larger in the large-size groups when compared to the small and medium-size groups. The occupational

pattern of certified paddy seed farmers revealed that approximately 66.67 percent of them had chosen farming as their primary occupation. The literacy status of certified seed farmers was determined to be over 91 per cent, indicating that fewer than 8 per cent of the farmers were illiterate. The average land holding, which stood at 2.25 hectares, was greater in the large-size groups compared to the small and medium groups. Additionally, at the overall level, the total farm investment, including land value, amounted to Rs. 2,504,941.5, and this investment was higher in the large-size groups in comparison to the small and medium groups. The cropping pattern of the selected farmers in the Kharif season is primarily focused on paddy, soybean, and groundnut. Notably, there has been an increase in the area allocated for paddy cultivation.

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