



Socio-Economic Characteristics of Selected Pigeonpea Growers in Parbhani District

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ABSTRACT

About 120 pigeonpea growers were selected from 6 villages of Parbhani district of Maharashtra for the year of 2011-2012. Cross sectional data were collected from selected pigeonpea growers with the help of pretested schedule by personal interview method. The results revealed that, at overall level pigeonpea grower belongs from different age groups i.e. Young (35.83 per cent), middle (45.83 per cent) and old age (18.33 per cent). At overall level the average size of family of selected pigeonpea grower's i.e. male (43.38 per cent), female (32.78 per cent) and children (23.84 per cent). At overall level the land holding of selected pigeonpea growers were small (11.41 per cent), medium (56.29 per cent) and large (32.30 per cent). The average cropping intensity at overall level was 133.55 per cent and also gross cropped area level was 5.48 per cent.

Keywords: Pigeonpea, Socio-economic characteristics, cropping pattern

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INTRODUCTION

Pulses occupied an area of about 68.31 million hector contributing 57.32 metric tons of production to the world food basket. India shared 35.2 per cent of area and 27.65 per cent of global pulses production (1). Thus, India is the largest producer of pulses in the world occupying an area of about 23.81 million hectors, with annual production of 15.11 million tones (IIPR, report 2007-08). India is the largest producer (25 per cent), importer (20 per cent) and consumer of pulses in the world. Current requirement of pulses in India is 17 million tones whereas the present production is 15.19 million tones. Out of the total production of pulses, chickpea contributes 40 per cent, pigeonpea 18 per cent, urdbean 11 per cent, mungbean 9 per cent, lentil 8.5 per cent and field pea 5 per cent in India. Pigeonpea is an important constituent in the category of pulses among all Indians. Availability of 20-21 per cent protein in pigeonpea supplements the energy rich cereal diet. From natural resource management perspective cultivation of pigeon pea improves the soil characteristics and fertility status (200 kg N ha⁻¹) ensuring better growth to succeeding crop by contributing about 40 kg ha⁻¹. Its stalks are sources of fuel and used for other socio-economic purposes in rural areas. Production levels of 1.7 million tones in 1950-51 increased to over 2.8 million tonnes in 2005-06 owing to the increase in acreage than the productivity *per se*. Consequently, per capita availability of pigeonpea has not been able to support the growing population. Pigeonpea varieties currently available has a potential to yield around 2.0 (short duration) to 3.5 (long duration) tones ha⁻¹. They are adapted to different agro-climatic intercropping niches, including low input conditions. The area increased from 3,33,000 ha in 1992-93 to 4,53,000 ha in 2006-08 in Andhra Pradesh, 1.01m.ha to 1.14 ha in Maharashtra and 4,72,000 to 6,24 000 ha in Karnataka mainly due to the increase in productivity in these states to the tune of 109 per cent, 64 per cent and 103 per cent, respectively. Gujarat registered 27 per cent increased yields of pigeon pea. The average experimental yield in national trials is around 1300 kg ha⁻¹, but the national average yield is only 753 kg ha⁻¹, indicating slow pace of transfer of technology and that 75-90 per cent increase in productivity can be achieved through improved adoption of existing technology and varieties (4). Pigeonpea is one of the major pulse crops of Maharashtra grown in Kharif season. Maharashtra stands first in area, production as well as productivity of pigeonpea in India. In various parts of Maharashtra, pigeonpea is still being cultivated as inter crop in Cotton and

Sorghum cultivation. In Maharashtra, during the year 2009-2010, cultivated in 11.15 lakh hectares annual production of 9.29 lakh tones and yield of 833 kg/ha.

MATERIALS AND METHODS

Multistage sampling technique was employed to select the samples. Marathwada region was selected purposively at the first stage, because it researches jurisdiction of Vasant Rao Naik Marathwada Krishi Vidyapeeth, Parbhani. In second stage, one district and two talukas were selected on area proportionate basis. At third stage, three villages from each talukas (six villages from a district) were selected with the help of simple random sampling technique, without replacement. Twenty sample farmers from each village were selected randomly. Thus, 120 sample farmers were selected for pigeonpea crop. In analytical techniques, that is to study the socio-economic characteristics of pigeonpea growers will be achieved by tabular analysis.

Analysis and Interpretation

Results with respect to socio-economic characteristics and cropping pattern were obtained and are presented as follows.

1. Socio-economic characteristics of selected pigeonpea growers

Socio-economic characteristics like age, education, size of family and land holding etc. directly effects the adoption of new technologies in the farming business the socio economic characteristics of selected pigeonpea growers were estimated and presented in table 1. The young farmers (18- 35years) were observed as 41.18 per cent, 34.48 per cent and 37.50 per cent in low medium and high adopters respectively. Middle (36-49 years) age group was dominating as 60.00 per cent in high adopters, in case of low and medium adopter it was 42.86 per cent and 50.00 per cent respectively and old age (50 and above) farmers were dominating in low and medium adopter which was 21.43 and 27.08 per cent. At overall level pigeonpea grower belongs from different age groups *i.e.* young (35.83 per cent), middle (55.00 per cent) and old age (18.33 per cent). At overall level the average size of sample family was 5.74 member and ranged from 5.00 (low adopter) to 6.75 (high adopter). Share of male in family size was highest in low adopter group *i.e.* 54.12 per cent followed by medium (40.25 per cent) and high (37.96 per cent) adopter, share of female was in high adopter which was 35.19 per cent followed by medium (33.96 per cent) and low (28.24 per cent) adopter and in case of high adopter share of children was *i.e.* 26.85 per cent followed by medium (25.79 per cent) and low (17.65 per cent) adopter. Educational level of low adopter in illiterate, up to middle school and high school and above was 17.65 per cent, 64.71 per cent and 17.65 per cent respectively, for medium adopters it was 16.09 per cent, 65.52 per cent and 18.39 per cent and for high adopter it was 12.50 per cent, 62.50 per cent and 25.00 per cent respectively.

The overall land holding was 11.41 per cent small (below 1 ha), 56.29 per cent medium (1 to 4 ha) and 32.30 per cent large (4 ha and above). share of small land holding pigeonpea growers were observe highest in low adopters *i.e.* 17.65 per cent followed by medium (10.34 per cent) and high (6.25 per cent) adopter, medium were dissimilarly ranged from medium, low and high adopter was 66.67 per cent, 64.71 per cent and 37.50 per cent respectively and large land holding was observed highest in high adopter (56.25 per cent) followed by medium adopter (22.99 per cent) and low adopter (17.65 per cent). In case of land holding medium to large land holding farmers were observed more in high technology adopters group and small farmers were observed more in low adopters group and medium farmers were in Medium adopter group. Average size of holding of pigeonpea growers were increase with increase in level of adoption of technology. Similar results were observed by [3].

2. Cropping pattern of selected pigeonpea growers

The cropping indicates the allocation of land under different crops and nature of farming *viz.* subsistence or commercial. The cropping pattern of selected pigeonpea growers were estimated and are presented in table 2.

At overall level the gross cropped area was 5.48 ha, out of which 97.56 and 32.50 per cent area under kharif and rabi crops. The cropping pattern of overall adopters was dominated by cotton (38.46 per cent), pigeonpea (29.19 per cent) and soyabean (19.02 per cent) in kharif; while, jawar (15.77 per cent), wheat (8.05 per cent) and chickpea (6.59 per cent) in rabi and turmeric (0.33 per cent) and bajara (0.28 per cent) in summer season, followed by sugarcane (0.36 per cent) and banana (0.05 per cent) in annual crop. The average cropping intensity at overall level was 133.55 per cent.

In case of low adopter, the gross cropped area was 2.98 ha, out of which 99.19 and 19.03 per cent area under kharif and rabi crops. The cropping pattern of low adopters was dominated by cotton (43.72 per cent), pigeonpea (42.91 per cent) and soyabean (8.91 per cent) in kharif, while jawar (11.34 per cent), chickpea (2.02 per cent) and wheat (2.02 per cent) in rabi and citrus (2.43 per cent) in perennial. The cropping intensity of low adopter was 120.65 per cent. Among the different adoption groups the area

under *kharif, rabi* crops increased as increase in the level of adoption of technology, but interestingly the area under summer and annual crop decreased with increase in the level of technology adoption of pigeonpea growers. The gross cropped area and cropping intensity of pigeonpea grower was also increased as increase in level of adoption of technology. Similar results were observed by [3].

Table 1. Socio-economic characteristics of selected pigeonpea growers

S. N.	Particulars	Level of adoption			
		Low (n=17)	Medium (n=87)	High (n=16)	Overall (n=120)
1	Age (Years)				
i)	Young (>18 - ≤ 35)	7 (41.18)	30 (34.48)	6 (37.50)	43 (35.83)
ii)	Middle (>36 - ≤ 49)	8 (47.06)	38 (43.68)	9 (56.25)	55 (45.83)
iii)	Old (>50)	2 (11.76)	19 (21.84)	1 (6.25)	22 (18.33)
2	Family size				
i)	Male	2.71 (54.12)	2.21 (40.25)	2.56 (37.96)	2.49 (43.38)
ii)	Female	1.41 (28.24)	1.86 (33.96)	2.38 (35.19)	1.88 (32.78)
iii)	Children	0.88 (17.65)	1.41 (25.79)	1.81 (26.85)	1.37 (23.84)
3.	Educational level				
i)	Illiterate	3 (17.65)	14 (16.09)	2 (12.50)	20 (16.67)
ii)	Up to middle school	11 (64.71)	57 (65.52)	10 (62.50)	77 (64.17)
iii)	High school and above	3 (17.65)	16 (18.39)	4 (25.00)	23 (19.17)

4.	Land holding(ha)				
i)	Small (≤ 1 ha)	0.18 (17.65)	0.10 (10.34)	0.06 (6.25)	0.11 (11.41)
ii)	Medium (>1 to ≤ 4 ha)	0.65 (64.71)	0.67 (66.67)	0.38 (37.50)	0.56 (56.29)
iii)	Large (>4 ha)	0.18 (17.65)	0.23 (22.99)	0.56 (56.25)	0.32 (32.30)

(Figures in parenthesis indicate the percentage to total)

Table 2. Cropping pattern of selected pigeonpea growers

S.N.	Particulars	Adoption Level			
		Low	Medium	High	Overall
	Kharif				
1	Cotton	1.08 (43.72)	1.45 (43.67)	2.2 (33.74)	1.58 (38.46)
2	Bajara	-	0.01 (0.30)	0.05 (0.77)	0.02 (0.49)
3	Pigeon pea	1.06 (42.91)	0.9 (27.11)	1.63 (25.00)	1.20 (29.19)
4	Soyabean	0.22 (8.91)	0.43 (12.95)	1.69 (25.92)	0.78 (19.02)
5	Mung	0.05 (2.02)	0.17 (5.12)	0.36 (5.52)	0.19 (4.72)
6	Jawar	0.04 (1.62)	0.08 (2.41)	0.53 (8.13)	0.22 (5.28)
7	Other	-	0.02 (0.60)	0.03 (0.46)	0.02 (0.41)
	Sub total (1 to 7)Rabi	2.45 (99.19)	3.06 (92.17)	6.49 (99.54)	4.00 (97.56)
8	Wheat	0.05 (2.02)	0.18 (5.42)	0.76 (11.66)	0.33 (8.05)
9	Chick pea	0.05 (2.02)	0.25 (7.53)	0.51 (7.82)	0.27 (6.59)
10	Jawar	0.28 (11.34)	0.51 (15.36)	1.15 (17.64)	0.65 (15.77)

11	Onion	-	0.006 (0.18)	-	-
12	Maize	0.09 (3.64)	0.02 (0.60)	-	0.037 (0.89)
13	Vegetable	-	0.01 (0.30)	-	0.004 (0.10)
14	Other	-	0.03 (0.90)	0.1 (1.53)	0.043 (1.06)
	Sub total (8 to 14)	0.47 (19.03)	1.01 (30.30)	2.52 (38.65)	1.33 (32.50)
Summer					
15	Vegetable	-	0.009 (0.27)	-	0.003 (0.07)
16	Turmeric	-	0.01 (0.30)	0.03 (0.46)	0.013 (0.33)
17	Bajara	-	0.004 (0.12)	0.03 (0.46)	0.01 (0.28)
18	Other	-	0.009 (0.27)	-	0.003 (0.07)
	Sub total (15 to 18)	-	0.03 (0.96)	0.06 (0.92)	0.03 (0.76)
Annual					
19	Sugarcane	-	0.04 (1.33)	-	0.01 (0.36)
20	Banana	-	0.006 (0.18)	-	0.002 (0.05)
	Sub total (19 to 20)	-	0.05 (1.51)	-	0.02 (0.41)
Perennial					
21	Sapota	0 (0.00)	0.01 (0.27)	0 (0.00)	0.003 (0.07)
22	Citrus	0.06 (2.43)	0.01 (0.27)	0.21 (3.22)	0.09 (2.27)
	Sub total (21 to 22)	0.06 (2.43)	0.02 (0.54)	0.21 (3.22)	0.10 (2.34)
	Gross cropped area	2.98	4.17	9.28	5.48
	Net cropped area	2.47	3.32	6.51	4.10
	Double cropped area	0.51	0.85	2.77	1.38
	Cropping intensity	120.65	125.51	142.55	133.55

(Figures in parenthesis indicate the *percentage to total*)

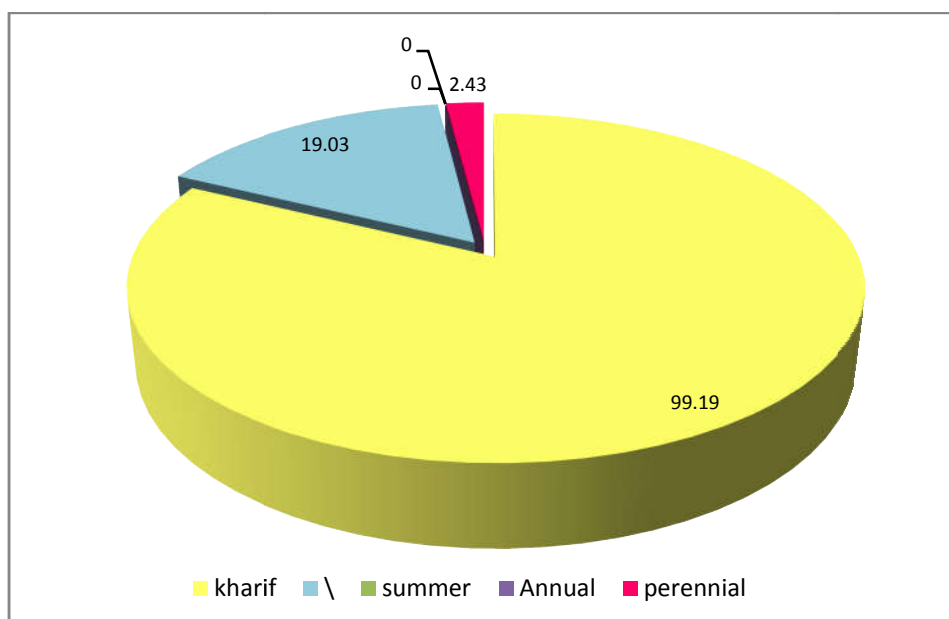


Fig 1. Share of *kharif*, *rabi*, summer and annual crops of low adopters in gross cropped area of pigeonpea.

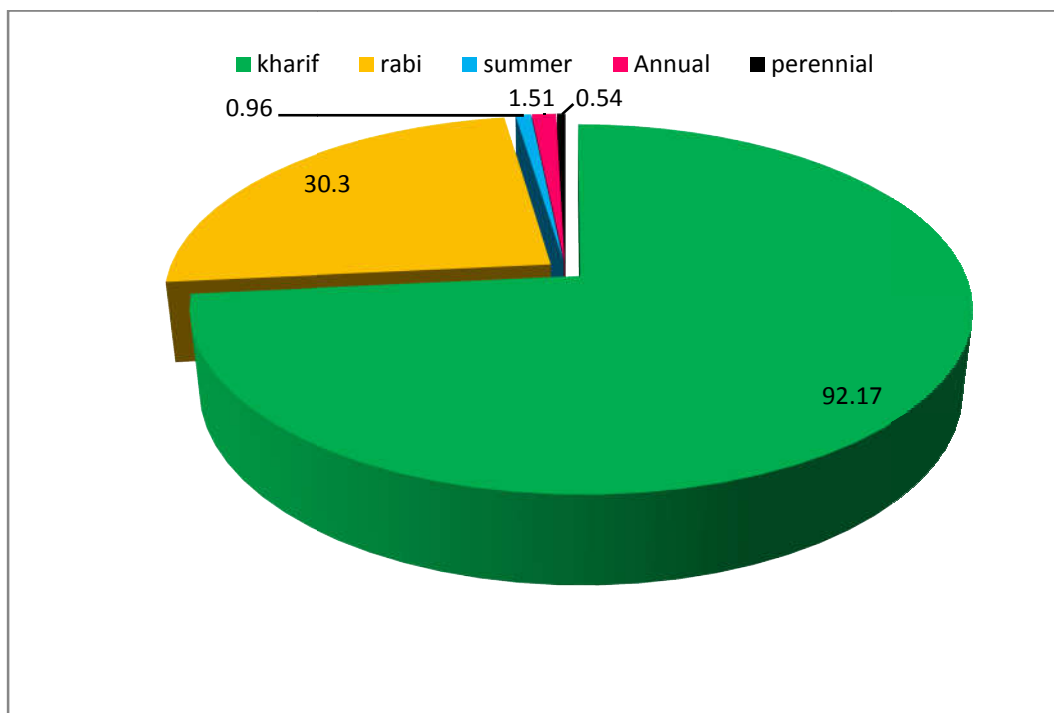


Fig 2. Share of *kharif*, *rabi*, summer and annual crops of medium adopters in gross cropped area of pigeonpea

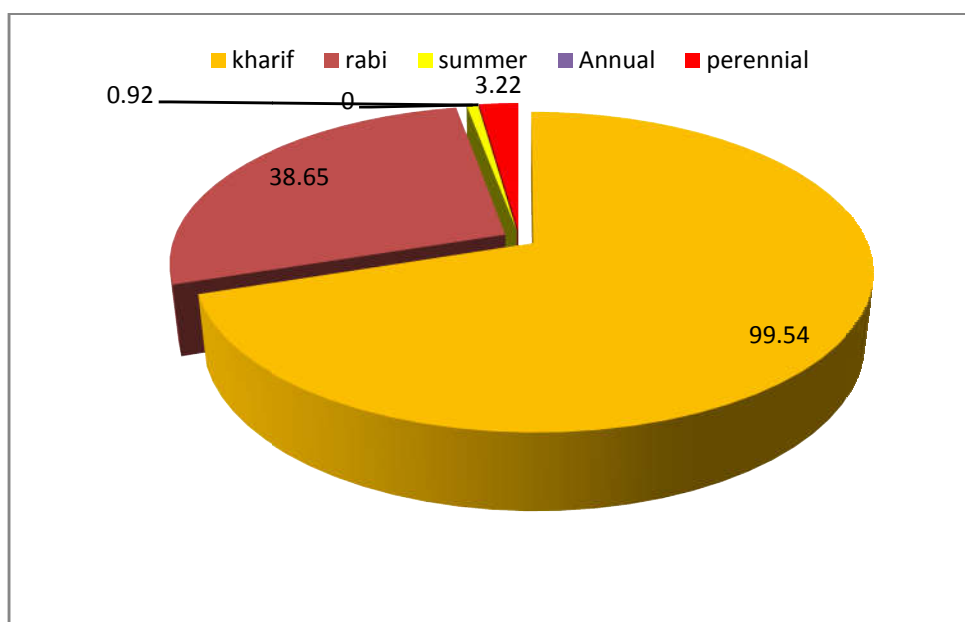


Fig 3. Share of *kharif*, *rabi*, summer and annual crops of high adopters in gross cropped area of pigeonpea

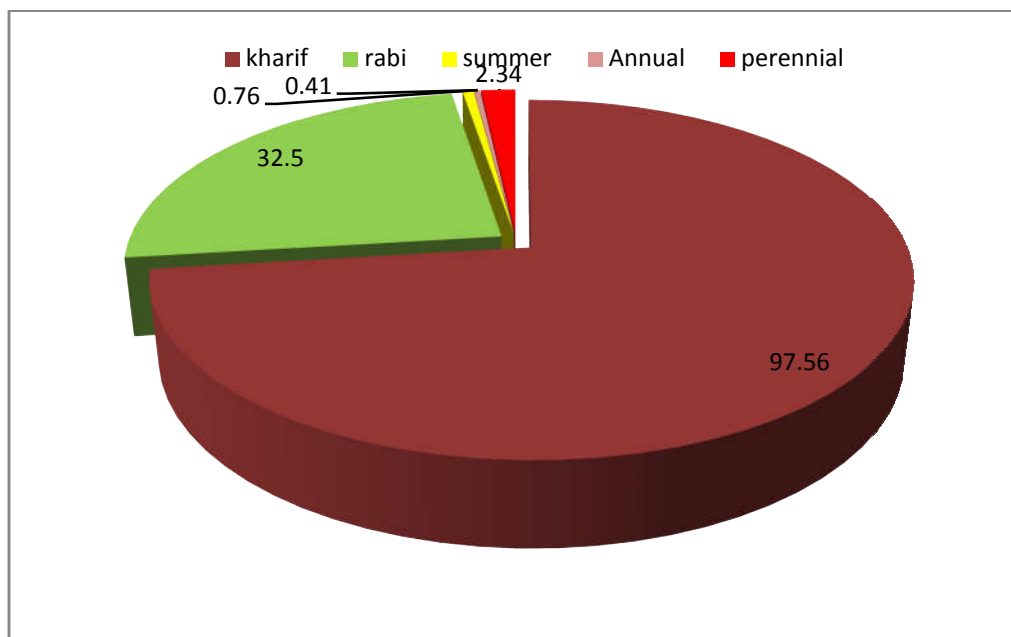


Fig 4. Share of kharif, rabi, summer and annual crops of overall adopters in gross cropped area of pigeonpea

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